THE SOUTH AFRICAN NATIONAL BIODIVERSITY INSTITUTE

Contract No: SANBI: NZG368/2020

REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR TO DESIGN, SUPPLY, INSTALL AND COMMISSION A NEW AQUARIUM CONTROL SYSTEM FOR THE SOUTH AFRICAN NATIONAL BIODIVERSITY INSTITUTE (SANBI) AT THE NATIONAL ZOOLOGICAL GARDEN IN PRETORIA

JULY 2020

Issued by:
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Name of Tenderer: .....

Contact Details: .....

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T1.1: TENDER NOTICE AND INVITATION TO TENDER

SOUTH AFRICAN NATIONAL BIODIVERSITY INSTITUTE INVITES TENDERERS FOR THE PROVISION OF:

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR TO DESIGN, SUPPLY, INSTALL AND COMMISSION A NEW AQUARIUM CONTROL SYSTEM FOR THE SOUTH AFRICAN NATIONAL BIODIVERSITY INSTITUTE (SANBI) AT THE NATIONAL ZOOLOGICAL GARDEN IN PRETORIA**
CONTRACT NO:	SANBI: NZG36/2020

Advertising date:	17 July 2020	**Closing date:**	21 August 2020
Closing time:	11:00	**Validity period:**	**90 days**

- It is expected that tenderers should have a CIDB contractor grading of **3 ME** or higher.
- Tender documents will be available as from **17 July 2020** on the SANBI website www.sanbi.org.
- SANBI is committed to the health and safety of all bidders and staff members, and reducing the spread of COVID-19. As a result, an **OPTIONAL** site inspection will be conducted. Bidders interested in viewing the proposed site must notify SANBI Supply Chain Management via email prior to **23 July 2020**. Bidders will be allowed to view the site in managed groups between **27 July 2020 - 31 July 2020**. No technical queries will be addressed during site inspections. Technical queries must be directed via email to SANBI Supply Chain Management prior to **August 2020**. Responses to queries will be posted on the SANBI website.

Any queries regarding the tender document or any related matter prior to submission of tenders must be directed to:

SANBI Representative (technical queries only):	Mr Leslie Mudimeli l.mudimeli@sanbi.org.za
SANBI Supply Chain Management:	sanbi.tenders@sanbi.org.za

The closing time and date for the receipt of tenders is **11:00** on **21 August 2020.**

The tenders will be opened in public if required (please note that the two-envelope system is being followed).

Requirements for sealing, addressing, delivery, opening and assessment of tenders are stated in the Tender Data.

T1.2 Tender Data

The conditions of tender are the Standard Conditions of Tender as contained in Annex F of the CIDB Standard for Uniformity in Construction Procurement (28 May 2010) as published in Government Gazette No 33239, Board Notice 86 of 2010 of 28 May 2010 (see www.cidb.org.za).

The Standard Conditions of Tender make several references to the Tender Data for details that apply specifically to this tender. The Tender Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the Standard Conditions of Tender.

Each item of data given below is cross-referenced to the clause in the Standard Conditions of Tender to which it mainly applies.

Clause number	Tender Data
C.1.1	The Employer is: The South African National Biodiversity Institute Private Bag X101 Silverton 0184
C.1.2	The Tender Documents issued by the Employer comprise the following documents: **THE TENDER** **Part T1: Tendering Procedures** T1.1 - Tender notice and invitation to tender T1.2 - Tender data **Part T2: Returnable Documents** T2.1 - List of returnable documents **THE CONTRACT** **Part C1: Agreements and Contract Data** C1.1 - Form of offer and acceptance C1.2 - Contract data C1.3 - Construction guarantee **Part C2: Pricing Data** C2.1 - Pricing instructions C2.2 - Bill of Quantities **Part C3: Scope of Works** C3.1- Description of the works C3.2 - Construction C3.3 - Annexures
F 2.1.1	The tender will only be considered for evaluation (deemed to be responsive) if: a) The tenderer provides all the relevant information required in the Returnable Documents Checklist b) The tenderer attends the compulsory clarification meeting as per T1.1 c) The tenderer scores above the minimum score in respect of the quality criteria stated in F.3.11.9 of this Tender Data

Any reference to words “Bid” or Bidder” herein and/or in any other documentation shall be construed to have the same meaning as the words “Tender” or “Tenderer”.

<table>
<tr><th>Clause number</th><th>Tender Data</th></tr>
<tr><td>F.2.1.2</td><td>Only those tenderers who are registered with the CIDB, or are capable of being so prior to the evaluation of submissions, in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum Tenderer, or a value determined in accordance with Regulation 25 (1B) or 25 (7A) of the Construction Industry Development Regulations, for a ME class of construction work, are eligible to have their tenders evaluated.

<table>
<tr><th>Category of tender</th><th>Upper limits per CIDB Regulation (2019)</th></tr>
<tr><td>1 ME</td><td>R500 000</td></tr>
<tr><td>2 ME</td><td>R1 000 000</td></tr>
<tr><td>3 ME</td><td>R3 000 000</td></tr>
<tr><td>4 ME</td><td>R6 000 000</td></tr>
<tr><td>5 ME</td><td>R10 000 000</td></tr>
<tr><td>6 ME</td><td>R20 000 000</td></tr>
<tr><td>7 ME</td><td>R60 000 000</td></tr>
<tr><td>8 ME</td><td>R200 000 000</td></tr>
<tr><td>9 ME</td><td>No Limit</td></tr>
</table>

Joint ventures are eligible to submit tenders provided that:
1. every member of the joint venture is registered with the CIDB
2. the lead partner has a contractor grading designation in the 2 ME class of construction work; and
3. the combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor grading designation determined in accordance with the sum Tenderer for a 3 ME class of construction work or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations.</td></tr>
<tr><td>F.2.7</td><td>The arrangements for a compulsory clarification meeting are as stated in the Tender Notice and Invitation to Tender.
Tenderers must sign the attendance list in the name of the tendering entity. Addenda will be issued to and tenders will be received only from those tendering entities appearing on the attendance list.</td></tr>
<tr><td>F.2.8</td><td>Tenderers can request clarification of the tender documents, if necessary, by notifying the Employer at least two working days before the closing time stated in the tender data.</td></tr>
<tr><td>F.2.12</td><td>Main tender offers are required to be submitted together with alternative tenders.</td></tr>
</table>

Clause number	Tender Data
F.2.12	If a tenderer wishes to submit an alternative tender offer, the only criteria permitted for such alternative tender offer is that it demonstrably satisfies the Employer's standards and requirements, the details of which may be obtained from the Engineer / Employer's Agent. Calculations, drawings and all other pertinent technical information and characteristics as well as modified or proposed Pricing Data must be submitted with the alternative tender offer to enable the Employer to evaluate the efficacy of the alternative and its principal elements, to take a view on the degree to which the alternative complies with the Employer's standards and requirements and to evaluate the acceptability of the pricing proposals. Calculations must be set out in a clear and logical sequence and must clearly reflect all assumptions. Pricing Data must reflect all assumptions in the development of the pricing proposal. Acceptance of an alternative tender offer will mean acceptance in principle of the offer. It will be an obligation of the contract for the tenderer, in the event that the alternative is accepted, to accept full responsibility and liability that the alternative offer complies in all respects with the Employer's standards and requirements. The modified Pricing Data must include an amount equal to 5% of the amount Tenderer for the alternative offer to cover the Employer's costs in confirming the acceptability of the supply package.
F.2.13.3	Tenderers shall note the specific requirements for packaging of their tender documents and include only the following: • Financial: One original document marked "Original" **including** Form of Offer and Acceptance, Estimated Monthly Expenditure and Priced Bills of Quantities; and • Technical: One copy **excluding** Form of Offer and Acceptance, Estimated Monthly Expenditure and Priced Bill of Quantities. **INCLUSION OF ANY PRICING INFORMATION ANYWHERE IN THE ONE COPY <u>WILL</u> LEAD TO THE BID BEING DISQUALIFIED.** The original document will be placed in one envelope and the one copy will be placed in another envelope. The two envelopes shall be placed together in an outer envelope sealed and bearing the following: • The address as stated in F2.13.5 below • The identification details as stated in F2.13.5 below • Name of the tenderer • The words "Not be opened before the Tender opening" The technical and financial envelopes should also contain the details of the last three bullets on them. The financial envelope must contain the words **NOT TO BE OPENED WITH THE TECHNICAL ENVELOPE**.
F.2.13.5 F.2.15.1	The Employer's address for delivery of tender offers and identification details to be shown on each tender offer package are: Location of Tender box: **Biodiversity Centre, Pretoria National Botanical Garden, 2 Cussonia Ave, Brummeria, Pretoria, Gauteng Province** Identification details: Tender number: SANBI: NZG368/2020 Title of Tender: **REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR TO DESIGN, SUPPLY, INSTALL AND COMMISSION A NEW AQUARIUM CONTROL SYSTEM FOR THE SOUTH AFRICAN NATIONAL BIODIVERSITY INSTITUTE (SANBI) AT THE NATIONAL ZOOLOGICAL GARDEN IN PRETORIA**

Clause number	Tender Data
F.2.13.6	A two-envelope procedure will be followed as described in clause F.2.13.3.
F.2.13.9	Telephonic, telegraphic, telex, facsimile or e-mailed tender offers will not be accepted.
F.2.15	The closing time for submission of tender offers is as stated in the Tender Notice and Invitation to Tender.
F.2.16	The tender offer validity period is **90** days.
F.2.18	The tenderer shall, when requested by the Employer to do so, submit the names of all management and supervisory staff that will be employed to supervise the labour-intensive portion of the works together with satisfactory evidence that such staff members satisfy the eligibility requirements.
F.2.23	The tenderer is required to submit with his tender the following documents. **Failure to include the following documents <u>WILL</u> result in the bid being disqualified:** **1) A copy of the Central Suppliers Database (CSD) registration report or registration number**. **2) A printed copy of the Active Contractor's Listing off the CIDB website (www.cidb.org.za)** **3) UIF compliance demonstrated by submission of one of the following:** • **A valid copy of the UIF Letter of Compliance issued by the Department of Employment and Labour, or** • **Labour uFiling Employer Statement of Account indicating UIF payments or accruals not older than 12 months, or** • **SARS eFiling Employer Statement of Account indicating UIF payments or accruals not older than 12 months, or** • **Valid proof of exemption for UIF** **4) Letter of Good Standing from the office of the Compensation Commissioner as required by the Compensation for Occupational Injuries and Diseases Act (COIDA). The letter should be issued by the Department of Employment and Labour or a licensed compensation insurer** **5) Local content declaration: Summary schedule and Declaration Certificate for local content SBD 6.2 must be submitted for the purpose of local content evaluation** **6) A valid original or certified copy of a B-BBEE certificate or a sworn affidavit to claim B-BBEE points** **<u>NOTE</u>: for this tender, the following pre-qualification criterion for preferential procurement will be applied: Section 4(1)(a) a Tenderer having a minimum B-BBEE Status Level of 2** **7) Fully completed & signed SBD forms**
F.2.24	The tenderer is required to submit with the tender the following documents: **1) Completed Tenderer OHS Management System Questionnaire (based on the Baseline Risk Assessment and OHS Specifications attached)** in terms of the Construction Regulations, 2014, issued in terms of the Occupational Health and Safety Act, 1993..
F.3.4	The tenders will be opened in public if required (please note that the two-envelope system is being followed).

<table>
<tr><th>Clause number</th><th>Tender Data</th></tr>
<tr><td>F.3.11.1</td><td>The tender evaluation method for the evaluation of all responsive tender offers will be Method 4: Financial offer, quality and preferences in accordance with F.3.11.5.</td></tr>
<tr><td>F.3.11.7</td><td>Scoring financial offers:
The financial offer will be scored using Formula 1 (Option 1) where the value of W1 is 80 points.</td></tr>
<tr><td>F.3.11.8</td><td>Scoring preference:
A maximum of 100 minus W_1 tender evaluation points will be awarded for preference to tenderers who submit responsive tenders and who are found to be eligible for the preference claimed, in accordance with the criteria listed below.
Points are based on a tenderer's scorecard measured in terms of the Broad-Based Black Economic Empowerment Act (Act No 53 of 2003) (B-BBEE) and the Regulations, 2011 to the Preferential Procurement Policy Framework Act (Act No 5 of 2000) (PPPFA) and the Preferential Procurement Regulations, 2017.
Points awarded will be according to a tenderer's B-BBEE status level of contribution and summarised in the table below:

<table>
<tr><th>B-BBEE Status Level of Contributor</th><th>Number of points (90/10 system)</th><th>Number of points (80/20 system)</th></tr>
<tr><td>1</td><td>10</td><td>20</td></tr>
<tr><td>2</td><td>9</td><td>18</td></tr>
<tr><td>3</td><td>8</td><td>14</td></tr>
<tr><td>4</td><td>5</td><td>12</td></tr>
<tr><td>5</td><td>4</td><td>8</td></tr>
<tr><td>6</td><td>3</td><td>6</td></tr>
<tr><td>7</td><td>2</td><td>4</td></tr>
<tr><td>8</td><td>1</td><td>2</td></tr>
<tr><td>Non-compliant contributor</td><td>0</td><td>0</td></tr>
</table>

Eligibility for preference points is subject to the following:
(a) A tenderer's scorecard shall be based on the Construction Sector Codes of Practice promulgated in Government Gazette No 32305 of 5 June 2009; and
(b) The scorecard shall be submitted as a certificate attached to Returnable Schedule Form C2; and
(c) The certificate shall have been issued by a registered verification agency accredited by the South African National Accreditation System (SANAS), as contemplated in the B-BBEE Framework for Accreditation and Verification by all Verification Agencies promulgated in Government Notice No 810 of 31 July 2009.;
(d) The date of issue of the certificate must be less than 12 months prior to the advertised Tender closing date (see Tender Data F.2.15); and
(e) Compliance with any other information requested to be attached to Returnable Schedule Form T2.1.06.</td></tr>
<tr><td>F.3.11.9</td><td>Scoring quality:
The functionality (quality) evaluation criteria are listed below. Maximum points for each criterion are in bold while points for each sub-criterion are indicated in brackets.</td></tr>
</table>

Clause number	Tender Data

FUNCTIONALITY CRITERIA

ID	CRITERIA	POINTS
1	Implementation method and project proposal: • Project proposal to be followed in delivering this project • Weekly plan/programme with milestones for the 18-month contract	**25** (15) (10)
2	Main contractor's experience: • Three reference letters regarding similar work completed in last three years • List of at least five other similar projects with telephonic references and indicating value of works completed (refer to tables in section T.2.1.05 below)	**35** (15) (20)
3	Main contractor's resources - personnel and plant: • Curriculum vitae for each proposed key personnel member indicating: o Individual experience on similar work in last five years o Total number of years' working experience in construction o Qualifications and membership of professional bodies* *A score of zero will be allocated if personnel do not meet the minimum criteria as specified below, or if certified proof of qualifications are not provided. All foreign qualifications must be accompanied by SAQA qualification report.	**40** (10) (10) (10)

Technical Expert	Minimum Criteria
Project lead / construction manager	B Degree / B Tech in Mechanical Engineering
	Professional Registration with ECSA (Pr. Eng. / Pr. Tech. Eng.)
Construction supervisor	B Degree / B.Tech in Civil Engineering and Building
Master Electrician	Master Electrician's Certificate and Registration with Electrical Contractor's Board (ECB) = 5
Gas Practitioner	Registration with SAGA
Health & Safety Officer	An Occupational Health & Safety Officer
NOTE: The above indicated resources are the minimum in order to ensure continuity throughout the project.	

	Plant and equipment: • Equipment owned by contractor • Equipment to be rented (if any) - with preferred rental companies	(10)
TOTAL		**100**

<table>
<tr><th>Clause number</th><th>Tender Data</th></tr>
<tr><td></td><td>Each evaluation criterion will be assessed in terms of five indicators – no response, poor, satisfactory, acceptable, good and very good. Scores ranging from of 0 to 5 will be allocated to no response, very poor, poor, acceptable, good and very good responses, respectively. The scores submitted by each of the evaluators will be averaged, weighted and then totalled to obtain the final score for functionality. The prompts for judgment and the associated scores used in the evaluation of quality shall be as follows:

<table>
<tr><th>Score</th><th>Prompt for judgement</th></tr>
<tr><td>0</td><td>Failed to address the question/issue</td></tr>
<tr><td>1</td><td>Very poor response – response/answer/solution lacks convincing evidence of skill/experience sought or medium risk that relevant skills will not be available.</td></tr>
<tr><td>2</td><td>Poor response – some elements of the response/answer/solution are present but documentary evidence is mostly lacking in respect of the required information</td></tr>
<tr><td>3</td><td>Acceptable response/answer/solution to the particular aspect of the requirements and evidence given of skill/experience sought</td></tr>
<tr><td>4</td><td>Above acceptable response/answer/solution demonstrating real understanding of requirements and evidence of ability to meet it.</td></tr>
<tr><td>5</td><td>Excellent response/answer/solution provides confidence that the tenderer will add real value to the project.</td></tr>
</table>

The minimum number of evaluation points for functionality proposal is 70 points in order to progress to the next round of the evaluation.</td></tr>
<tr><td>F.3.13</td><td>Tender offers will only be accepted if:
a) the tenderer submits a copy of the CSD registration report or registration number (refer to T2.1.13)
b) the tenderer is registered with the Construction Industry Development Board in an appropriate contractor grading designation (refer to T2.1.12)
c) the tenderer or any of its directors/shareholders is not listed on the Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector (refer to SBD 8)
d) the tenderer has not (refer to SBD 8):
a. abused the Employer’s Supply Chain Management System, or
b. failed to perform on any previous contract and has been given a written notice to this effect
e) the tenderer has completed the Compulsory Enterprise Questionnaire and there are no conflicts of interest which may impact on the tenderer’s ability to perform the contract in the best interests of the Employer or potentially compromise the tender process and persons in the employ of the state are permitted to submit tenders or participate in the contract (refer to T2.1.16)
f) the tenderer is registered and in good standing with the compensation fund or with a licensed compensation insurer (Letter of good standing with COIDA)</td></tr>
</table>

Clause number	Tender Data
	g) UIF compliance is demonstrated by submission of one of the following: • A valid copy of the UIF Letter of Compliance issued by the Department of Employment and Labour, or • Labour uFiling Employer Statement of Account indicating UIF payments or accruals not older than 12 months, or • SARS eFiling Employer Statement of Account indicating UIF payments or accruals not older than 12 months, or • Valid proof of exemption for UIF h) the Employer is reasonably satisfied that the tenderer has in terms of the Construction Regulations, 2014, issued in terms of the Occupational Health and Safety Act, 1993, the necessary competencies and resources to carry out the work safely (refer to T2.1.17).

Annex F

(normative)

Standard Conditions of Tender

F.1 General

F.1.1 Actions

F.1.1.1 The Employer and each tenderer submitting a tender offer shall comply with these conditions of tender. In their dealings with each other, they shall discharge their duties and obligations as set out in F.2 and F.3, timeously and with integrity, and behave equitably, honestly and transparently, comply with all legal obligations and not engage in anticompetitive practices.

F.1.1.2 The Employer and the tenderer and all their agents and employees involved in the tender process shall avoid conflicts of interest and where a conflict of interest is perceived or known, declare any such conflict of interest, indicating the nature of such conflict. Tenderers shall declare any potential conflict of interest in their tender submissions. Employees, agents and advisors of the Employer shall declare any conflict of interest to whoever is responsible for overseeing the procurement process at the start of any deliberations relating to the procurement process or as soon as they become aware of such conflict, and abstain from any decisions where such conflict exists or recuse themselves from the procurement process, as appropriate.

Note: (1) A conflict of interest may arise due to a conflict of roles which might provide an incentive for improper acts in some circumstances. A conflict of interest can create an appearance of impropriety that can undermine confidence in the ability of that person to act properly in his or her position even if no improper acts result.

(2) Conflicts of interest in respect of those engaged in the procurement process include direct, indirect or family interests in the tender or outcome of the procurement process and any personal bias, inclination, obligation, allegiance or loyalty which would in any way affect any decisions taken.

F.1.1.3 The Employer shall not seek and a tenderer shall not submit a tender without having a firm intention and the capacity to proceed with the contract.

F.1.2 Tender Documents

The documents issued by the Employer for the purpose of a tender offer are listed in the tender data.

F.1.3 Interpretation

F.1.3.1 The tender data and additional requirements contained in the tender schedules that are included in the returnable documents are deemed to be part of these conditions of tender.

F.1.3.2 These conditions of tender, the tender data and tender schedules which are only required for tender evaluation purposes, shall not form part of any contract arising from the invitation to tender.

F.1.3.3 For the purposes of these conditions of tender, the following definitions apply:

(a) **conflict of interest** means any situation in which:

(i) someone in a position of trust has competing professional or personal interests which make it difficult to fulfil his or her duties impartially;

(ii) an individual or organisation is in a position to exploit a professional or official capacity in some way for their personal or corporate benefit; or

(iii) incompatibility or contradictory interests exist between an employee and the organisation which employs that employee.

(b) **comparative offer** means the tenderer's financial offer after all Tenderer parameters that will affect the value of the financial offer have been taken into consideration in order to enable comparisons to be made between offers on a comparative basis

(c) **corrupt practice** means the offering, giving, receiving or soliciting of anything of value to influence the action of the Employer or his staff or agents in the tender process

(d) **fraudulent practice** means the misrepresentation of the facts in order to influence the tender process or the award of a contract arising from a tender offer to the detriment of the Employer, including collusive practices intended to establish prices at artificial levels

(e) **organization** means a company, firm, enterprise, association or other legal entity, whether incorporated or not, or a public body

(f) **quality (functionality)** means the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs.

F.1.4 Communication and Employer's Engineer

Each communication between the Employer and a tenderer shall be to or from the Employer's agent/Engineer only, and in a form that can be readily read, copied and recorded. Communications shall be in the English language. The Employer shall not take any responsibility for non-receipt of communications from or by a tenderer. The name and contact details of the Employer's agent are stated in the tender data.

F.1.5 The Employer's right to accept or reject any tender offer

F.1.5.1 The Employer may accept or reject any variation, deviation, tender offer, or alternative tender offer, and may cancel the tender process and reject all tender offers at any time before the formation of a contract. The Employer shall not accept or incur any liability to a tenderer for such cancellation and rejection, but will give written reasons for such action upon written request to do so.

F.1.5.2 The Employer may not subsequent to the cancellation or abandonment of a tender process or the rejection of all responsive tender offers re-issue a tender covering substantially the same scope of work within a period of six months unless only one tender was received and such tender was returned unopened to the tenderer.

F.1.6 Procurement P rocedures

F.1.6.1 General

Unless otherwise stated in the tender data, a contract will, subject to F.3.13, be concluded with the tenderer who in terms of F.3.11 is the highest ranked or the tenderer scoring the highest number of tender evaluation points, as relevant, based on the tender submissions that are received at the closing time for tenders.

F.1.6.2 Competitive Negotiation Procedure

F.1.6.2.1 Where the tender data require that the competitive negotiation procedure is to be followed, tenderers shall submit tender offers in response to the proposed contract in the first round of submissions. Notwithstanding the requirements of F.3.4, the Employer shall announce only the names of the tenderers who make a submission. The requirements of F.3.8 relating to the material deviations or qualifications which affect the competitive position of tenderers shall not apply.

F.1.6.2.2 All responsive tenderers, or not less than three responsive tenderers that are highest ranked in terms of the evaluation method and evaluation criteria stated in the tender data, shall be invited in each round to enter into competitive negotiations, based on the principle of equal treatment and keeping confidential the proposed solutions and associated information. Notwithstanding the provisions of F.2.17, the Employer may request that tenders be clarified, specified and fine-tuned in order to improve a tenderer's competitive position provided that such clarification, specification, fine- tuning or additional information does not alter any fundamental aspects of the offers or impose substantial new requirements which restrict or distort competition or have a discriminatory effect.

F.1.6.2.3 At the conclusion of each round of negotiations, tenderers shall be invited by the Employer to make a fresh

tender offer, based on the same evaluation criteria, with or without adjusted weightings. Tenderers shall be advised when they are to submit their best and final offer.

F.1.6.2.4 The contract shall be awarded in accordance with the provisions of F.3.11 and F.3.13 after tenderers have been requested to submit their best and final offer.

F.1.6.3 Proposal procedure using the two stage-system

F.1.6.3.1 Option 1

Tenderers shall in the first stage submit technical proposals and, if required, cost parameters around which a contract may be negotiated. The Employer shall evaluate each responsive submission in terms of the method of evaluation stated in the tender data, and in the second stage negotiate a contract with the tenderer scoring the highest number of evaluation points and award the contract in terms of these conditions of tender.

F.1.6.3.2 Option 2

F.1.6.3.2.1 Tenderers shall submit in the first stage only technical proposals. The Employer shall invite all responsive tenderers to submit tender offers in the second stage, following the issuing of procurement documents.

F.1.6.3.2.2 The Employer shall evaluate tenders received during the second stage in terms of the method of evaluation stated in the tender data, and award the contract in terms of these conditions of tender.

F.2 Tenderer's obligations

F.2.1 Eligibility

F.2.1.1 Submit a tender offer only if the tenderer satisfies the criteria stated in the tender data and the tenderer, or any of his principals, is not under any restriction to do business with Employer.

F.2.1.2 Notify the Employer of any proposed material change in the capabilities or formation of the tendering entity (or both) or any other criteria which formed part of the qualifying requirements used by the Employer as the basis in a prior process to invite the tenderer to submit a tender offer and obtain the Employer's written approval to do so prior to the closing time for tenders.

F.2.2 Cost of tendering

Accept that, unless otherwise stated in the tender data, the Employer will not compensate the tenderer for any costs incurred in the preparation and submission of a tender offer, including the costs of any testing necessary to demonstrate that aspects of the offer complies with requirements.

F.2.3 Check documents

Check the tender documents on receipt for completeness and notify the Employer of any discrepancy or omission.

F.2.4 Confidentiality and copyright of documents

Treat as confidential all matters arising in connection with the tender. Use and copy the documents issued by the Employer only for the purpose of preparing and submitting a tender offer in response to the invitation.

F.2.5 Reference documents

Obtain, as necessary for submitting a tender offer, copies of the latest versions of standards, specifications, conditions of contract and other publications, which are not attached but which are incorporated into the tender documents by reference.

F.2.6 Acknowledge addenda

Acknowledge receipt of addenda to the tender documents, which the Employer may issue, and if necessary apply for an extension to the closing time stated in the tender data, in order to take the addenda into account.

F.2.7 Clarification meeting

Attend, where required, a clarification meeting at which tenderers may familiarize themselves with aspects of the proposed work, services or supply and raise questions. Details of the meeting(s) are stated in the tender data.

F.2.8 Seek clarification

Request clarification of the tender documents, if necessary, by notifying the Employer at least five working days before the closing time stated in the tender data.

F.2.9 Insurance

Be aware that the extent of insurance to be provided by the Employer (if any) might not be for the full cover required in terms of the conditions of contract identified in the contract data. The tenderer is advised to seek qualified advice regarding insurance.

F.2.10 Pricing the tender offer

F.2.10.1 Include in the rates, prices, and the Tenderer total of the prices (if any) all duties, taxes (except Value Added Tax (VAT), and other levies payable by the successful tenderer, such duties, taxes and levies being those applicable 14 days before the closing time stated in the tender data.

F2.10.2 Show VAT payable by the Employer separately as an addition to the Tenderer total of the prices.

F.2.10.3 Provide rates and prices that are fixed for the duration of the contract and not subject to adjustment except as provided for in the conditions of contract identified in the contract data.

F.2.10.4 State the rates and prices in Rand unless instructed otherwise in the tender data. The conditions of contract identified in the contract data may provide for part payment in other currencies.

F.2.11 Alterations to documents

Do not make any alterations or additions to the tender documents, except to comply with instructions issued by the Employer, or necessary to correct errors made by the tenderer. All signatories to the tender offer shall initial all such alterations. Erasures and the use of masking fluid are prohibited.

F.2.12 Alternative tender offers

F.2.12.1 Unless otherwise stated in the tender data, submit alternative tender offers only if a main tender offer, strictly in accordance with all the requirements of the tender documents, is also submitted as well as a schedule that compares the requirements of the tender documents with the alternative requirements that are proposed.

F.2.12.2 Accept that an alternative tender offer may be based only on the criteria stated in the tender data or criteria otherwise acceptable to the Employer.

F.2.13 Submitting a tender offer

F.2.13.1 Submit one tender offer only, either as a single tendering entity or as a member in a joint venture to provide the whole of the works, services or supply identified in the contract data and described in the scope of works, unless stated otherwise in the tender data.

F.2.13.2 Return all returnable documents to the Employer after completing them in their entirety, either electronically (if they were issued in electronic format) or by writing legibly in non-erasable ink.

F.2.13.3 Submit the parts of the tender offer communicated on paper as an original plus the number of copies stated in the tender data, with an English translation of any documentation in a language other than English, and the parts communicated electronically in the same format as they were issued by the Employer.

F.2.13.4 Sign the original and all copies of the tender offer where required in terms of the tender data. The Employer will hold all authorized signatories liable on behalf of the tenderer. Signatories for tenderers proposing to contract as joint

ventures shall state which of the signatories is the lead partner whom the Employer shall hold liable for the purpose of the tender offer.

F.2.13.5 Seal the original and each copy of the tender offer as separate packages marking the packages as "ORIGINAL" and "COPY". Each package shall state on the outside the Employer's address and identification details stated in the tender data, as well as the tenderer's name and contact address.

F.2.13.6 Where a two-envelope system is required in terms of the tender data, place and seal the returnable documents listed in the tender data in an envelope marked “financial proposal” and place the remaining returnable documents in an envelope marked “technical proposal”. Each envelope shall state on the outside the Employer’s address and identification details stated in the tender data, as well as the tenderer's name and contact address.

F.2.13.7 Seal the original tender offer and copy packages together in an outer package that states on the outside only the Employer's address and identification details as stated in the tender data.

F.2.13.8 Accept that the Employer will not assume any responsibility for the misplacement or premature opening of the tender offer if the outer package is not sealed and marked as stated.

F.2.13.9 Accept that tender offers submitted by facsimile or e-mail will be rejected by the Employer, unless stated otherwise in the tender data.

F.2.14 Information and data to be completed in all respects

Accept that tender offers, which do not provide all the data or information requested completely and in the form required, may be regarded by the Employer as non-responsive.

F.2.15 Closing time

F.2.15.1 Ensure that the Employer receives the tender offer at the address specified in the tender data not later than the closing time stated in the tender data. Accept that proof of posting shall not be accepted as proof of delivery.

F.2.15.2 Accept that, if the Employer extends the closing time stated in the tender data for any reason, the requirements of these conditions of tender apply equally to the extended deadline.

F.2.16 Tender offer validity

F.2.16.1 Hold the tender offer(s) valid for acceptance by the Employer at any time during the validity period stated in the tender data after the closing time stated in the tender data.

F.2.16.2 If requested by the Employer, consider extending the validity period stated in the tender data for an agreed additional period with or without any conditions attached to such extension.

F.2.16.3 Accept that a tender submission that has been submitted to the Employer may only be withdrawn or substituted by giving the Employer’s agent written notice before the closing time for tenders that a tender is to be withdrawn or substituted.

F.2.16.4 Where a tender submission is to be substituted, submit a substitute tender in accordance with the requirements of F.2.13 with the packages clearly marked as “SUBSTITUTE”.

F.2.17 Clarification of tender offer after submission

Provide clarification of a tender offer in response to a request to do so from the Employer during the evaluation of tender offers. This may include providing a breakdown of rates or prices and correction of arithmetical errors by the adjustment of certain rates or item prices (or both). No change in the competitive position of tenderers or substance of the tender offer is sought, offered, or permitted.

Note: Sub-clause F.2.17 does not preclude the negotiation of the final terms of the contract with a preferred tenderer following a competitive selection process, should the Employer elect to do so.

F.2.18 Provide other material

F.2.18.1 Provide, on request by the Employer, any other material that has a bearing on the tender offer, the tenderer's commercial position (including notarized joint venture agreements), preferencing arrangements, or samples of materials, considered necessary by the Employer for the purpose of a full and fair risk assessment. Should the tenderer not provide the material, or a satisfactory reason as to why it cannot be provided, by the time for submission stated in the Employer's request, the Employer may regard the tender offer as non-responsive.

F.2.18.2 Dispose of samples of materials provided for evaluation by the Employer, where required.

F.2.19 Inspections, tests and analysis

Provide access during working hours to premises for inspections, tests and analysis as provided for in the tender data.

F.2.20 Submit securities, bonds, policies, etc.

If requested, submit for the Employer's acceptance before formation of the contract, all securities, bonds, guarantees, policies and certificates of insurance required in terms of the conditions of contract identified in the contract data.

F.2.21 Check final draft

Check the final draft of the contract provided by the Employer within the time available for the Employer to issue the contract.

F.2.22 Return of other tender documents

If so instructed by the Employer, return all retained tender documents within 28 days after the expiry of the validity period stated in the tender data.

F.2.23 Certificates

Include in the tender submission or provide the Employer with any certificates as stated in the tender data.

F.3 The Employer's undertakings

F.3.1 Respond to requests from the tenderer

F.3.1.1 Unless otherwise stated in the tender Data, respond to a request for clarification received up to five working days before the tender closing time stated in the Tender Data and notify all tenderers who drew procurement documents.

F.3.1.2 Consider any request to make a material change in the capabilities or formation of the tendering entity (or both) or any other criteria which formed part of the qualifying requirements used to prequalify a tenderer to submit a tender offer in terms of a previous procurement process and deny any such request if as a consequence:

(a) an individual firm, or a joint venture as a whole, or any individual member of the joint venture fails to meet any of the collective or individual qualifying requirements;

(b) the new partners to a joint venture were not prequalified in the first instance, either as individual firms or as another joint venture; or

(c) in the opinion of the Employer, acceptance of the material change would compromise the outcome of the prequalification process.

F.3.2 Issue Addenda

If necessary, issue addenda that may amend or amplify the tender documents to each tenderer during the period from the date that tender documents are available until three days before the tender closing time stated in the Tender Data. If, as a result a tenderer applies for an extension to the closing time stated in the Tender Data, the Employer may grant such extension and, shall then notify all tenderers who drew documents.

F.3.3 Return late tender offers

Return tender offers received after the closing time stated in the Tender Data, unopened, (unless it is necessary to open a tender submission to obtain a forwarding address), to the tenderer concerned.

F.3.4 Opening of tender submissions

F.3.4.1 Unless the two-envelope system is to be followed, open valid tender submissions in the presence of tenderers' agents who choose to attend at the time and place stated in the tender data. Tender submissions for which acceptable reasons for withdrawal have been submitted will not be opened.

F.3.4.2 Announce at the meeting held immediately after the opening of tender submissions, at a venue indicated in the tender data, the name of each tenderer whose tender offer is opened and, where applicable, the total of his prices, preferences claimed and time for completion for the main tender offer only.

F.3.4.3 Make available the record outlined in F.3.4.2 to all interested persons upon request.

F.3.5 Two-envelope system

F.3.5.1 Where stated in the tender data that a two-envelope system is to be followed, open only the technical proposal of valid tenders in the presence of tenderers' agents who choose to attend at the time and place stated in the tender data and announce the name of each tenderer whose technical proposal is opened.

F.3.5.2 Evaluate the quality of the technical proposals offered by tenderers, then advise tenderers who remain in contention for the award of the contract of the time and place when the financial proposals will be opened. Open only the financial proposals of tenderers, who score in the quality evaluation more than the minimum number of points for quality stated in the tender data, and announce the score obtained for the technical proposals and the total price and any preferences claimed. Return unopened financial proposals to tenderers whose technical proposals failed to achieve the minimum number of points for quality.

F.3.6 Non-disclosure

Not disclose to tenderers, or to any other person not officially concerned with such processes, information relating to the evaluation and comparison of tender offers, the final evaluation price and recommendations for the award of a contract, until after the award of the contract to the successful tenderer.

F.3.7 Grounds for rejection and disqualification

Determine whether there has been any effort by a tenderer to influence the processing of tender offers and instantly disqualify a tenderer (and his tender offer) if it is established that he engaged in corrupt or fraudulent practices.

F.3.8 Test for responsiveness

F.3.8.1 Determine, after opening and before detailed evaluation, whether each tender offer properly received:

(a) complies with the requirements of these Conditions of Tender,

(b) has been properly and fully completed and signed, and

(c) is responsive to the other requirements of the tender documents.

F.3.8.2 A responsive tender is one that conforms to all the terms, conditions, and specifications of the tender documents without material deviation or qualification. A material deviation or qualification is one which, in the Employer's opinion, would:

(a) detrimentally affect the scope, quality, or performance of the works, services or supply identified in the Scope of Work,

(b) significantly change the Employer's or the tenderer's risks and responsibilities under the contract, or

(c) affect the competitive position of other tenderers presenting responsive tenders, if it were to be rectified.

Reject a non-responsive tender offer, and not allow it to be subsequently made responsive by correction or withdrawal of the non-conforming deviation or reservation.

F.3.9 Arithmetical errors, omissions and discrepancies

F.3.9.1 Check responsive tenders for discrepancies between amounts in words and amounts in figures. Where there is a discrepancy between the amounts in figures and the amount in words, the amount in words shall govern.

F.3.9.2 Check the highest ranked tender or tenderer with the highest number of tender evaluation points after the evaluation of tender offers in accordance with F.3.11 for:

(a) the gross misplacement of the decimal point in any unit rate

(b) omissions made in completing the pricing schedule or bills of quantities, or

(c) arithmetic errors in:

(i) line item totals resulting from the product of a unit rate and a quantity in bills of quantities or schedules of prices; or

(ii) the summation of the prices.

F.3.9.3 Notify the tenderer of all errors or omissions that are identified in the tender offer and either confirm the tender offer as Tenderer or accept the corrected total of prices.

F.3.9.4 Where the tenderer elects to confirm the tender offer as Tenderer, correct the errors as follows:

(a) If bills of quantities or pricing schedules apply and there is an error in the line item total resulting from the product of the unit rate and the quantity, the line item total shall govern and the rate shall be corrected. Where there is an obviously gross misplacement of the decimal point in the unit rate, the line item total as quoted shall govern, and the unit rate shall be corrected.

(b) Where there is an error in the total of the prices either as a result of other corrections required by this checking process or in the tenderer's addition of prices, the total of the prices shall govern and the tenderer will be asked to revise selected item prices (and their rates if bills of quantities apply) to achieve the Tenderer total of the prices.

F.3.10 Clarification of a tender offer

Obtain clarification from a tenderer on any matter that could give rise to ambiguity in a contract arising from the tender offer.

F.3.11 Evaluation of tender offers

F.3.11.1 General

Appoint an evaluation panel of not less than three persons. Reduce each responsive tender offer to a comparative offer and evaluate them using the tender evaluation methods and associated evaluation criteria and weightings that are specified in the tender data.

F.3.11.2 Method 1: Financial Offer

In the case of a financial offer:

(a) Rank tender offers from the most favourable to the least favourable comparative offer.

(b) Recommend the highest ranked tenderer for the award of the contract, unless there are compelling and justifiable reasons not to do so.

(c) Re-rank all tenderers should there be compelling and justifiable reasons not to recommend the highest ranked tenderer and recommend the highest ranked tenderer, unless there are compelling and justifiable reasons not to do so and the process set out in this subclause is repeated.

F.3.11.3 Method 2: Financial offer and preference

In the case of a financial offer and preferences:

(a) Score each tender in respect of the financial offer made and preferences claimed, if any, in accordance with the provisions of F.3.11.7 and F.3.11.8.

(b) Calculate the total number of tender evaluation points (T_{EV}) in accordance with the following formula:

$T_{EV} = N_{FO} + N_P$

where: N_{FO} is the number of tender evaluation points awarded for the financial offer made in accordance with F.3.11.7;

N_P is the number of tender evaluation points awarded for preferences claimed in accordance with F.3.11.8.

(c) Rank tender offers from the highest number of tender evaluation points to the lowest.

(d) Recommend the tenderer with the highest number of tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.

(e) Rescore and re-rank all tenderers should there be compelling and justifiable reasons not to recommend the tenderer with the highest number of tender evaluation points, and recommend the tenderer with the highest number of tender evaluation points, unless there are compelling and justifiable reasons not to do so and the process set out in this sub-clause is repeated

F.3.11.4 Method 3: Financial offer and quality

In the case of a financial offer and quality:

(a) Score each tender in respect of the financial offer made and the quality offered in accordance with the provisions of F.3.11.7 and F.3.11.9, rejecting all tender offers that fail to score the minimum number of points for quality stated in the tender data, if any.

(b) Calculate the total number of tender evaluation points (T_{EV}) in accordance with the following formula:

$T_{EV} = N_{FO} + N_Q$

where: N_{FO} is the number of tender evaluation points awarded for the financial offer made in accordance with F.3.11.7;

N_Q is the number of tender evaluation points awarded for quality offered in accordance with F.3.11.9.

(c) Rank tender offers from the highest number of tender evaluation points to the lowest.

(d) Recommend tenderer with the highest number of tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.

(e) Rescore and re-rank all tenderers should there be compelling and justifiable reasons not to recommend the tenderer with the highest number of tender evaluation points and recommend the tenderer with the highest number of tender evaluation points, unless there are compelling and justifiable reasons not to do so and the process set out in this sub-clause is repeated.

F.3.11.5 Method 4: Financial offer, quality and preferences

In the case of a financial offer, quality and preferences:

(a) Score each tender in respect of the financial offer made, preference claimed, if any, and the quality offered in accordance with the provisions of F.3.11.7 to F.3.11.9, rejecting all tender offers that fail to score the minimum number of points for quality stated in the tender data, if any.

(b) Calculate the total number of tender evaluation points (T_{EV}) in accordance with the following formula, unless otherwise stated in the Tender Data:

$$T_{EV} = N_{FO} + N_P + N_Q$$

where: N_{FO} is the number of tender evaluation points awarded for the financial offer made in accordance with F.3.11.7;

N_P is the number of tender evaluation points awarded for preferences claimed in accordance with F.3.11.8.

N_Q is the number of tender evaluation points awarded for quality offered in accordance with F.3.11.9.

(c) Rank tender offers from the highest number of tender evaluation points to the lowest.

(d) Recommend the tenderer with the highest number of tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.

(e) Rescore and re-rank all tenderers should there be compelling and justifiable reasons not to recommend the tenderer with the highest number of tender evaluation points and recommend the tenderer with the highest number of tender evaluation points, unless there are compelling and justifiable reasons not to do so and the process set out in this sub-clause is repeated.

F.3.11.6 Decimal places

Score financial offers, preferences and quality, as relevant, to two decimal places.

F.3.11.7 Scoring Financial Offers

Score the financial offers of remaining responsive tender offers using the following formula:

$$N_{FO} = W_1 \times A$$

where: N_{FO} is the number of tender evaluation points awarded for the financial offer.

W_1 is the maximum possible number of tender evaluation points awarded for the financial offer as stated in the Tender Data.

A is a number calculated using the formula and option described in Table F.1 as stated in the Tender Data.

Table F.1: Formulae for calculating the value of A

(d) Formula	(e) Comparison aimed at achieving	(f) Option 1[a]	(g) Option 2[a]
(h) 1	(i) Highest price or discount	(j) A = (1 + (P-Pm)) (k) Pm	(l) A = P /Pm
(m) 2	(n) Lowest price or percentage (o) commission / fee	(p) A = (1 - (P-Pm)) (q) Pm	(r) A = Pm / P

Any reference to words “Bid” or Bidder” herein and/or in any other documentation shall be construed to have the same meaning as the words “Tender” or “Tenderer”.

(s)	a	P_m is the comparative offer of the most favourable comparative offer.
	(t)	P is the comparative offer of the tender offer under consideration.

F.3.11.8 Scoring preferences

Confirm that tenderers are eligible for the preferences claimed in accordance with the provisions of the tender data and reject all claims for preferences where tenderers are not eligible for such preferences. Calculate the total number of tender evaluation points for preferences claimed in accordance with the provisions of the tender data.

F.3.11.9 Scoring quality

Score each of the criteria and sub-criteria for quality in accordance with the provisions of the Tender Data.

Calculate the total number of tender evaluation points for quality using the following formula:

$N_Q = W_2 \times S_O / M_S$

where: S_O is the score for quality allocated to the submission under consideration;

M_S is the maximum possible score for quality in respect of a submission; and

W_2 is the maximum possible number of tender evaluation points awarded for the quality as stated in the tender data

F.3.12 Insurance provided by the Employer

If requested by the proposed successful tenderer, submit for the tenderer's information the policies and/or certificates of insurance which the conditions of contract identified in the contract data, require the Employer to provide.

F.3.13 Acceptance of tender offer

Accept the tender offer, if in the opinion of the Employer, it does not present any unacceptable commercial risk and only if the tenderer:

(a) is not under restrictions, or has principals who are under restrictions, preventing participating in the Employer's procurement,

(b) can, as necessary and in relation to the proposed contract, demonstrate that he or she possesses the professional and technical qualifications, professional and technical competence, financial resources, equipment and other physical facilities, managerial capability, reliability, experience and reputation, expertise and the personnel, to perform the contract,

(c) has the legal capacity to enter into the contract,

(d) is not insolvent, in receivership, bankrupt or being wound up, has his affairs administered by a court or a judicial officer, has suspended his business activities, or is subject to legal proceedings in respect of any of the foregoing,

(e) complies with the legal requirements, if any, stated in the tender data, and

(f) is able, in the opinion of the Employer, to perform the contract free of conflicts of interest.

F.3.14 Prepare contract documents

F.3.14.1 If necessary, revise documents that shall form part of the contract and that were issued by the Employer as part of the tender documents to take account of:

(a) addenda issued during the tender period,

(b) inclusion of some of the returnable documents, and

(c) other revisions agreed between the Employer and the successful tenderer.

F.3.14.2 Complete the schedule of deviations attached to the form of offer and acceptance, if any.

F.3.15 Complete adjudicator's contract

Unless alternative arrangements have been agreed or otherwise provided for in the contract, arrange for both parties to complete formalities for appointing the selected adjudicator at the same time as the main contract is signed.

F.3.16 Notice to unsuccessful tenderers

F.3.16.1 Notify the successful tenderer of the Employer's acceptance of his tender offer by completing and returning one copy of the form of offer and acceptance before the expiry of the validity period stated in the tender data, or agreed additional period.

F.3.16.2 After the successful tenderer has been notified of the Employer's acceptance of the tender, notify other tenderers that their tender offers have not been accepted.

F.3.17 Provide copies of the contracts

Provide to the successful tenderer the number of copies stated in the Tender Data of the signed copy of the contract as soon as possible after completion and signing of the form of offer and acceptance.

F.3.18 Provide written reasons for actions taken

Provide upon request written reasons to tenderers for any action that is taken in applying these conditions of tender, but withhold information which is not in the public interest to be divulged, which is considered to prejudice the legitimate commercial interests of tenderers or might prejudice fair competition between tenderers.

T2.1: LIST OF RETURNABLE DOCUMENTS

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR TO DESIGN, SUPPLY, INSTALL AND COMMISSION A NEW AQUARIUM CONTROL SYSTEM FOR THE SOUTH AFRICAN NATIONAL BIODIVERSITY INSTITUTE (SANBI) AT THE NATIONAL ZOOLOGICAL GARDEN IN PRETORIA**
CONTRACT NO:	SANBI: NZG368/2020

1. RETURNABLE SCHEDULES REQUIRED FOR TENDER EVALUATION PURPOSES

Tender document name	Number of pages issued	Returnable document
Resolution of Board of Directors (T2.1.01)	1 Page	■ Yes □ No
Resolution of Board of Directors to enter into consortia or JVs (T2.1.02) (If Applicable)	2 Pages	■ Yes □ No
Special Resolution of Consortia or JVs (T2.1.03) (If applicable)	3 Pages	■ Yes □ No
Schedule of proposed sub-contractors (T2.1.04)	1 Page	■ Yes □ No
Capacity of Tenderer (T2.1.05)	3 Pages	■ Yes □ No
Preference Point System (T2.1.06)	6 Pages	■ Yes □ No
Resources to be employed in terms of organization and staffing (T2.1.07)	2 Pages	■ Yes □ No
3-month preliminary work programme with estimated monthly expenditure (T2.1.08)	1 Page	■ Yes □ No
Unemployment Insurance Fund (UIF)	1 Page	■ Yes □ No
Compensation of Occupational Injuries and Disease Act (COIDA)	1 Page	■ Yes □ No

2. OTHER DOCUMENTS REQUIRED FOR TENDER EVALUATION PURPOSES

Tender document name	Number of pages issued	Returnable document
Curriculum Vitae (T2.1.09)	n/a	■ Yes □ No
Declaration of Interest (T2.1.10)	2 Pages	■ Yes □ No
Medical Certificate for the confirmation of permanent disabled status (T2.1.11)	1 Page	■ Yes □ No
Proof of registration with Construction Industry Development Board (T2.1.12)	1 Page	■ Yes □ No
A copy of the Central Suppliers Database Registration Report or registration number (T2.1.13)	3 Pages	■ Yes □ No
Financial reference (T2.1.14)	1 Page	■ Yes □ No
Annexure 6: Documents to be supplied with the proposal	n/a	■ Yes □ No

Any reference to words “Bid” or Bidder” herein and/or in any other documentation shall be construed to have the same meaning as the words “Tender” or “Tenderer”.

3. RETURNABLE SCHEDULES THAT WILL BE INCORPORATED INTO THE CONTRACT

Tender document name	Number of pages issued	Returnable document
Record of Addenda to tender documents (T2.1.15)	1 Page	■ Yes □ No
Compulsory Enterprise Questionnaire (T2.1.16)	3 Pages	■ Yes □ No
Declaration certificate for local production and content for designated sectors (SBD 6.2)	5 Pages	■ Yes □ No
Declaration of Bidder's Past Supply Chain Management Practices (SBD 8)	2 Pages	■ Yes □ No
Certificate of Independent Quotation Determination (SBD 9)	4 Pages	■ Yes □ No

4. OTHER DOCUMENTS THAT WILL BE INCORPORATED INTO THE CONTRACT

Tender document name	Number of pages issued	Returnable document
Applicable Form of Guarantee	3 Pages	■ Yes □ No
Priced Bill of Quantities	5 Pages	■ Yes □ No

C1.1 Offer portion of Form of Offer and Acceptance
C1.2 Contract Data (Part 2)
C1.3 Form of Guarantee

RETURNABLE DOCUMENT CHECKLIST

This form has been created as an aid to ensure a tenderer's compliance with the completion of the returnable schedules and subsequent placement in the correct **Technical** and **Financial** envelopes.

A TECHNICAL ENVELOPE (1 COPY)

Reference No	Document Description	Tick if completed
T2.1.01	Resolution of Board of Directors	
T2.1.02	Resolution of Board of Directors to enter into consortia or JVs (If applicable)	
T2.1.03	Special Resolution of Consortia or JVs (If applicable)	
T2.1.04	Schedule of proposed sub-contractors	
T2.1.05	Capacity of Tenderer	
T2.1.06	Preference Point System	
T2.1.07	Resources to be employed in terms of organization and staffing	
T2.1.09	Curriculum Vitae	
T2.1.10	Declaration of Interest	
T2.1.11	Medical Certificate for the confirmation of permanent disabled status	
T2.1.12	Proof of registration with Construction Industry Development Board	
T2.1.13	Copy of Central Suppliers Database (CSD) Registration Report or Registration number	
T2.1.14	Financial reference	
T2.1.15	Record of Addenda to tender documents	
T2.1.16	Compulsory Enterprise Questionnaire	
T2.1.17	OHS Management System Questionnaire	
SBD 8	Declaration of Bidder's Past Supply Chain Management Practices	
SBD 9	Certificate of Independent Quotation Determination	
	Unemployment Insurance Fund (UIF)	
	Compensation of Occupational Injuries and Disease Act (COIDA)	

B FINANCIAL ENVELOPE (ORIGINAL DOCUMENT)

The entire technical tender document must be submitted in this envelope including the forms as listed below:

Reference No	Document Description	Tick if completed
Form C1.1	Form of Offer and Acceptance	
Form C1.2	Contract Data – Part 1	
Form C2.2	Priced Bill of Quantities	
Form T2.1.08	Estimated Monthly Expenditure	
SBD 6.2	Declaration certificate for local production and content for designated sectors	

T2.1.01: RESOLUTION OF BOARD OF DIRECTORS

RESOLUTION of a meeting of the Board of *Directors / Members / Partners of:

_____

_____

(*legally correct full name and registration number, if applicable, of the Enterprise)*

Held at _____ (place)

On _____ (date)

RESOLVED that:

1. The Enterprise submits a Bid / Tender to the South African National Biodiversity Institute in respect of the following project:

   _____

   _____

   (*project description as per Bid / Tender Document)*

   Bid / Tender Number: _____ *(Bid / Tender Number as per Bid / Tender Document)*

2. *Mr/Mrs/Ms: _____

   in *his/her Capacity as: _____ (*Position in the Enterprise)*

   and who will sign as follows: _____

   be, and is hereby, authorised to sign the Bid / Tender, and any and all other documents and/or correspondence in connection with and relating to the Bid / Tender, as well as to sign any Contract, and any and all documentation, resulting from the award of the Bid / Tender to the Enterprise mentioned above.

	Name	Capacity	Signature
1			
2			
3			
4			

Note:

1. ** Delete which is not applicable*
2. ***NB**. This resolution must be signed by all the Directors / Members / Partners of the Bidding Enterprise*
3. *Should the number of Directors / Members/Partners exceed the space available above, additional names and signatures must be supplied on a separate page*

ENTERPRISE STAMP

Any reference to words “Bid” or Bidder” herein and/or in any other documentation shall be construed to have the same meaning as the words “Tender” or “Tenderer”.

T2.1.02: RESOLUTION OF BOARD OF DIRECTORS TO ENTER INTO CONSORTIA OR JOINT VENTURES

RESOLUTION of a meeting of the Board of *Directors / Members / Partners of:

_____

_____

(*Legally correct full name and registration number, if applicable, of the Enterprise)*

Held at _____ (*place)*

On _____ *(date)*

RESOLVED that:

3. The Enterprise submits a Bid /Tender, in consortium/Joint Venture with the following Enterprises:

   _____

   _____

   (List all the legally correct full names and registration numbers, if applicable, of the Enterprises forming the Consortium/Joint Venture)

   to the South African National Biodiversity Institute in respect of the following project:

   _____

   _____

   (*Project description as per Bid /Tender Document)*

   Bid / Tender Number: _____(*Bid / Tender Number as per Tender Document)*

4. *Mr/Mrs/Ms:

   _____

   in *his/her Capacity as: _____*(Position in the Enterprise)*

   and who will sign as follows: _____

   be, and is hereby, authorised to sign a Consortium/Joint Venture agreement with the parties listed under item 1 above, and any and all other documents and/or correspondence in connection with and relating to the Consortium/Joint Venture, in respect of the project described under item 1 above.

5. The Joint Venture formation/arrangement will be in the following proportions:

Name of Contractor	Proportion (%)

6. The Enterprise accepts joint and several liabilities with the parties listed under item 1 above for the due fulfilment of the obligations of the joint venture deriving from, and in any way connected with, the Contract to be entered into with the Employer in respect of the project described under item 1 above.

7. The Enterprise chooses as its *domicilium citandi et executandi* for all purposes arising from this joint venture agreement and the Contract with the Employer in respect of the project under item 1 above:

Physical address: _____

_____

_____ (code)

Postal Address: _____

_____

_____ (code)

Telephone number: _____ (code)

Fax number: _____ (code)

	Name	Capacity	Signature
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Note:

1. ** Delete which is not applicable*
2. ***NB**. This resolution must be signed by all the Directors / Members / Partners of the Bidding Enterprise*
3. *Should the number of Directors / Members/Partners exceed the space available above, additional names and signatures must be supplied on a separate page*

ENTERPRISE STAMP

T2.1.03: SPECIAL RESOLUTION OF CONSORTIA OR JOINT VENTURES

RESOLUTION of a meeting of the duly authorised representatives of the following legal entities who have entered into a Consortium/Joint Venture to jointly bid for the project mentioned below: (*legally correct full names and registration numbers, if applicable, of the Enterprises forming a Consortium/Joint Venture)*

1. _____

_____

2. _____

_____

3. _____

_____

4. _____

_____

5. _____

_____

6. _____

_____

7. _____

_____

8. _____

_____

Held at _____ (*place)*

On _____ *(date)*

RESOLVED that:

A. The above-mentioned Enterprises submit a Bid in Consortium/Joint Venture to the South African National Biodiversity Institute in respect of the following project:

_____

_____

(*Project description as per Bid /Tender Document)*

Bid / Tender Number: _____ (*Bid / Tender Number as per Bid /Tender Document)*

B. Mr/Mrs/Ms: _____

in *his/her Capacity as: _____ *(Position in the Enterprise)*

and who will sign as follows: _____

be, and is hereby, authorised to sign the Bid, and any and all other documents and/or correspondence in connection with and relating to the Bid, as well as to sign any Contract, and any and all documentation, resulting from the award of the Bid to the Enterprises in Consortium/Joint Venture mentioned above.

C. The Enterprises constituting the Consortium/Joint Venture, notwithstanding its composition, shall conduct all business under the name and style of: _____

D. The Enterprises to the Consortium/Joint Venture accept joint and several liability for the due fulfilment of the obligations of the Consortium/Joint Venture deriving from, and in any way connected with, the Contract entered into with the Employer in respect of the project described under item A above.

E. Any of the Enterprises to the Consortium/Joint Venture intending to terminate the Consortium/Joint Venture agreement, for whatever reason, shall give the Employer 30 day's written notice of such intention. Notwithstanding such decision to terminate, the Enterprises shall remain jointly and severally liable to the Employer for the due fulfilment of the obligations of the Consortium/Joint Venture as mentioned under item D above.

F. No Enterprise to the Consortium/Joint Venture shall, without the prior written consent of the other Enterprises to the Consortium/Joint Venture and of the Employer, cede any of its rights or assign any of its obligations under the Consortium/Joint Venture agreement in relation to the Contract with the Employer referred to herein.

G. The Enterprises choose as the *domicilium citandi et executandi* of the Consortium/Joint Venture for all purposes arising from the Consortium/Joint Venture agreement and the Contract with the Employer in respect of the project under item A above:

Physical address: _____

_____

_____

_____ (code)

Postal Address: _____

_____

_____

_____ (code)

Telephone number: _____ (code)

Fax number: _____ (code)

	Name	Capacity	Signature
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

Note:

1. ** Delete which is not applicable*
2. ***NB**. This resolution must be signed by all the Duly Authorised Representatives of the Legal Entities to the Consortium Joint Venture submitting this Bid*
3. *Should the number of Duly Authorised Representatives of the Legal Entities joining forces in this Bid exceed the space available above, additional names and signatures must be supplied on a separate page*
4. *Resolutions, duly completed and signed, from the separate Enterprises who participate in this Consortium/Joint Venture must be attached to the Special Resolution.*

T2.1.04: SCHEDULE OF PROPOSED SUBCONTRACTORS

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR TO DESIGN, SUPPLY, INSTALL AND COMMISSION A NEW AQUARIUM CONTROL SYSTEM FOR THE SOUTH AFRICAN NATIONAL BIODIVERSITY INSTITUTE (SANBI) AT THE NATIONAL ZOOLOGICAL GARDEN IN PRETORIA**
CONTRACT NO:	SANBI: XXXXXXX/2020

We notify you that it is our intention to employ the following Subcontractors for work in this contract.

If we are awarded a contract we agree that this notification does not change the requirement for us to submit the names of proposed Subcontractors in accordance with requirements in the contract for such appointments. If there are no such requirements in the contract, then your written acceptance of this list shall be binding between us.

	Name and address of proposed subcontractor	**Nature and extent of work**	**Previous experience with subcontractor**
1			
2			
3			
4			

Name of representative	**Signature**	**Capacity**	**Date**
Name of organisation:			

T2.1.05: CAPACITY OF TENDERER

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR TO DESIGN, SUPPLY, INSTALL AND COMMISSION A NEW AQUARIUM CONTROL SYSTEM FOR THE SOUTH AFRICAN NATIONAL BIODIVERSITY INSTITUTE (SANBI) AT THE NATIONAL ZOOLOGICAL GARDEN IN PRETORIA**
CONTRACT NO:	SANBI: NZG368/2020

1. WORK CAPACITY: *(The Tenderer is requested to furnish the following particulars, attach additional pages if more space is required. Failure to furnish the particulars may result in the Tender being disregarded.)*

Skilled artisans employed		**Unskilled employees employed**	
Categories of artisans	**Number**	**Categories of employees**	**Number**

1.1. Provide full particulars of:

Machinery	**Plant**	**Workshops**

2. PARTICULARS OF COMMITMENTS WHICH THE TENDERER HAS PREVIOUSLY COMPLETED AND PRESENTLY ENGAGED WITH:

2.1. Current projects:

	Project	**Place (town)**	**Reference / Contact person**	**Contact Tel. No.**	**Contract amount**	**Contract period**	**Date of commencement**	**Scheduled date of completion**
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								

2.2. Previous projects:

Project		Place (town)	Reference / Contact person	Contact Tel. No.	Contract amount	Contract period	Date of commencement	Scheduled date of completion	Actual date of completion
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									

Name of Tenderer	**Signature**	**Date**

T2.1.06: PREFERENCE POINT SYSTEM

PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2017

This preference form must form part of all bids invited. It contains general information and serves as a claim form for preference points for Broad-Based Black Economic Empowerment (B-BBEE) Status Level of Contribution

NB: BEFORE COMPLETING THIS FORM, BIDDERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF B-BBEE, AS PRESCRIBED IN THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017.

---

1. GENERAL CONDITIONS

1.1 The following preference point systems are applicable to all bids:

- the 80/20 system for requirements with a Rand value equal to or above R30 000 and up to R50 000 000 (all applicable taxes included); and
- the 90/10 system for requirements with a Rand value above R50 000 000 (all applicable taxes included).

1.2 The value of this bid is estimated to not exceed R50 000 000.00 (all applicable taxes included) and therefore the 80/20 system shall be applicable.

1.3 Preference points for this bid shall be awarded for:

(a) Price; and

(b) B-BBEE Status Level of Contribution.

1.3.1 The maximum points for this bid are allocated as follows:

		POINTS
1.3.1.1	**PRICE**	**80**
1.3.1.2	**B-BBEE STATUS LEVEL OF CONTRIBUTION**	**20**
	Total points for Price and B-BBEE must not exceed	**100**

1.4 Failure on the part of a Bidder to fill in and/or to sign this form and submit a B-BBEE Verification Certificate from a Verification Agency accredited by the South African Accreditation System (SANAS) or a Registered Auditor approved by the Independent Regulatory Board of Auditors (IRBA) or an Accounting Officer as contemplated in the Close Corporation Act (CCA) together with the bid, will be interpreted to mean that preference points for B-BBEE status level of contribution are not claimed.

1.5. The purchaser reserves the right to require of a Bidder, either before a bid is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the purchaser.

2. DEFINITIONS

2..1 **"all applicable taxes"** includes value-added tax, pay as you earn, income tax, unemployment insurance fund contributions and skills development levies;

2.2 **"B-BBEE"** means broad-based black economic empowerment as defined in section 1 of the Broad - Based Black Economic Empowerment Act;

2.3 "**B-BBEE status level of contributor"** means the B-BBEE status received by a measured entity Based on its overall performance using the relevant scorecard contained in the Codes of Good Practice on Black Economic Empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act;

2.4 **"bid"** means a written offer in a prescribed or stipulated form in response to an invitation by an organ of state for the provision of services, works or goods, through price quotations, advertised competitive bidding processes or proposals;

2.5 **"Broad-Based Black Economic Empowerment Act"** means the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);

2.6 **"comparative price"** means the price after the factors of a non-firm price and all unconditional discounts that can be utilized have been taken into consideration;

2.7 **"consortium or joint venture"** means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract;

2.8 **"contract"** means the agreement that results from the acceptance of a bid by an organ of state;

2.9 **"EME"** means any enterprise with an annual total revenue of R5 million or less.

2.10 **"Firm price"** means the price that is only subject to adjustments in accordance with the actual increase or decrease resulting from the change, imposition, or abolition of customs or excise duty and any other duty, levy, or tax, which, in terms of the law or regulation, is binding on the contractor and demonstrably has an influence on the price of any supplies, or the rendering costs of any service, for the execution of the contract;

2.11 **"functionality"** means the measurement according to predetermined norms, as set out in the bid documents, of a service or commodity that is designed to be practical and useful, working or operating, taking into account, among other factors, the quality, reliability, viability and durability of a service and the technical capacity and ability of a Bidder;

2.12 **"non-firm prices"** means all prices other than "firm" prices;

2.13 **"person"** includes a juristic person;

2.14 **"rand value"** means the total estimated value of a contract in South African currency, calculated at the time of bid invitations, and includes all applicable taxes and excise duties;

2.15 **"sub-contract"** means the primary contractor's assigning, leasing, making out work to, or employing, another person to support such primary contractor in the execution of part of a project in terms of the contract;

2.16 **"total revenue"** bears the same meaning assigned to this expression in the Codes of Good Practice on Black Economic Empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act and promulgated in the *Government Gazette* on 9 February 2007;

2.17 **"trust"** means the arrangement through which the property of one person is made over or bequeathed to a trustee to administer such property for the benefit of another person; and

2.18 **"trustee"** means any person, including the founder of a trust, to whom property is bequeathed in order for such property to be administered for the benefit of another person.

3. ADJUDICATION USING A POINT SYSTEM

3.1 The Bidder obtaining the highest number of total points will be awarded the contract.

3.2 Preference points shall be calculated after prices have been brought to a comparative basis taking into account all factors of non-firm prices and all unconditional discounts.

3.3 Points scored must be rounded off to the nearest 2 decimal places.

3.4 In the event that two or more bids have scored equal total points, the successful bid must be the one scoring the highest number of preference points for B-BBEE.

3.5 However, when functionality is part of the evaluation process and two or more bids have scored equal points including equal preference points for B-BBEE, the successful bid must be the one scoring the highest score for functionality.

3.6 Should two or more bids be equal in all respects, the award shall be decided by the drawing of lots.

4. POINTS AWARDED FOR PRICE

4.1 THE 80/20 OR 90/10 PREFERENCE POINT SYSTEMS

A maximum of 80 or 90 points is allocated for price on the following basis:

80/20 **or** **90/10**

$$Ps = 80\left(1 - \frac{Pt - P\min}{P\min}\right) \quad \text{or} \quad Ps = 90\left(1 - \frac{Pt - P\min}{P\min}\right)$$

Where

Ps = Points scored for comparative price of bid under consideration

Pt = Comparative price of bid under consideration

Pmin = Comparative price of lowest acceptable bid

5. Points awarded for B-BBEE Status Level of Contribution

5.1 In terms of Regulation 5 (2) and 6 (2) of the Preferential Procurement Regulations, preference points must be awarded to a Bidder for attaining the B-BBEE status level of contribution in accordance with the table below:

B-BBEE Status Level of Contributor	Number of points (90/10 system)	Number of points (80/20 system)
1	10	20
2	9	18
3	8	14
4	5	12
5	4	8
6	3	6
7	2	4
8	1	2
Non-compliant contributor	0	0

5.2 Bidders who qualify as EMEs in terms of the B-BBEE Act must submit a certificate issued by an Accounting Officer as contemplated in the CCA or a Verification Agency accredited by SANAS or a Registered Auditor. Registered auditors do not need to meet the prerequisite for IRBA's approval for the purpose of conducting verification and issuing EMEs with B-BBEE Status Level Certificates.

5.3 Bidders other than EMEs must submit their original and valid B-BBEE status level verification certificate or a certified copy thereof, substantiating their B-BBEE rating issued by a Registered Auditor approved by IRBA or a Verification Agency accredited by SANAS.

5.4 A trust, consortium or joint venture, will qualify for points for their B-BBEE status level as a legal entity, provided that the entity submits their B-BBEE status level certificate.

5.5 A trust, consortium or joint venture will qualify for points for their B-BBEE status level as an unincorporated entity, provided that the entity submits their consolidated B-BBEE scorecard as if they were a group structure and that such a consolidated B-BBEE scorecard is prepared for every separate bid.

5.6 Tertiary institutions and public entities will be required to submit their B-BBEE status level certificates in terms of the specialized scorecard contained in the B-BBEE Codes of Good Practice.

5.7 A person will not be awarded points for B-BBEE status level if it is indicated in the bid documents that such a Bidder intends sub-contracting more than 25% of the value of the contract to any other enterprise that does not qualify for at least the points that such a Bidder qualifies for, unless the intended sub-contractor is an EME that has the capability and ability to execute the sub-contract.

5.8 A person awarded a contract may not sub-contract more than 25% of the value of the contract to any Other enterprise that does not have an equal or higher B-BBEE status level than the person concerned, unless the contract is sub-contracted to an EME that has the capability and ability to execute the sub-contract.

6. BID DECLARATION

6.1 Bidders who claim points in respect of B-BBEE Status Level of Contribution must complete the following:

7. B-BBEE STATUS LEVEL OF CONTRIBUTION CLAIMED IN TERMS OF PARAGRAPHS 1.3.1.2 AND 5.1

7.1 B-BBEE Status Level of Contribution: ……. = …… (maximum of 10 or 20 points)

(Points claimed in respect of paragraph 7.1 must be in accordance with the table reflected in paragraph 5.1 and must be substantiated by means of a B-BBEE certificate issued by a Verification Agency accredited by SANAS or a Registered Auditor approved by IRBA or an Accounting Officer as contemplated in the CCA).

8 SUB-CONTRACTING

8.1 Will any portion of the contract be sub-contracted? YES / NO (delete which is not applicable)

8.1.1 If yes, indicate:

(i) what percentage of the contract will be subcontracted? .....……%

(ii) the name of the sub-contractor? ……..……..

(iii) the B-BBEE status level of the sub-contractor? ……..

(iv) whether the sub-contractor is an EME? YES / NO (delete which is not applicable)

9 DECLARATION WITH REGARD TO COMPANY/FIRM

9.1 Name of company/firm : …….

9.2 VAT registration number : …….

9.3 Company registration number : …….

9.4 TYPE OF COMPANY/FIRM

□ Partnership/Joint Venture / Consortium

□ One-person business/sole propriety

□ Close corporation

□ Company

□ (Pty) Limited

[TICK APPLICABLE BOX]

9.5 DESCRIBE PRINCIPAL BUSINESS ACTIVITIES

…….. .....

…… .....

…….....

9.6 COMPANY CLASSIFICATION

☐ Manufacturer

☐ Supplier

☐ Professional service provider

☐ Other service providers, e.g. transporter, etc.

[TICK APPLICABLE BOX]

9.7 Total number of years the company/firm has been in business? ……

9.8 I/we, the undersigned, who is / are duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the B-BBEE status level of contribution indicated in paragraph 7 of the foregoing certificate, qualifies the company/ firm for the preference(s) shown and I / we acknowledge that:

(i) The information furnished is true and correct;

(ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form.

(iii) In the event of a contract being awarded as a result of points claimed as shown in paragraph 7, the contractor may be required to furnish documentary proof to the satisfaction of the purchaser that the claims are correct;

(iv) If the B-BBEE status level of contribution has been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the purchaser may, in addition to any other remedy it may have –

(a) disqualify the person from the bidding process;

(b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;

(c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;

(d) restrict the Bidder or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and

(e) forward the matter for criminal prosecution.

WITNESSES:

1. ……

……

SIGNATURE(S) OF BIDDER(S)

2. ……

DATE:……..

ADDRESS:……

…..……

T2.1.07: RESOURCES TO BE EMPLOYED IN TERMS OF ORGANIZATION AND STAFFING

The Tenderer shall list below the key personnel (including first nominee and the second choice alternate), whom he proposes to employ on the Contract should his tender be accepted, both at his headquarters and on the Site, to direct and for the execution of the work, together with their qualifications, experience, positions held and their nationalities.

DESIGNATION	NAME AND NATIONALITY OF: (i) NOMINEE (ii) ALTERNATE	SUMMARY OF QUALIFICATIONS, EXPERIENCE AND PRESENT OCCUPATION
HEADQUARTERS Partner/Director Project Manager Other key staff (give designation)		

DESIGNATION	NAME AND NATIONALITY OF: (i) NOMINEE (ii) ALTERNATE	SUMMARY OF QUALIFICATIONS, EXPERIENCE AND PRESENT OCCUPATION
<u>SITE OFFICE</u> Site Agent Site Engineer Construction Supervisor (give designation) Occupational Health and Safety Representative Other key staff (give designation)		

T2.1.08: 12-MONTH WORK PROGRAMME WITH ESTIMATED MONTHLY EXPENDITURE

The Tenderer shall state below the estimated value of work to be completed every month, based on his preliminary 18-month programme and his Tenderer unit rates.

MONTH	VALUE
1	R .....
2	R .....
3	R .....
4	R .....
5	R .....
6	R .....
7	R .....
8	R .....
9	R .....
10	R .....
11	R .....
12	R .....
13	R .....
14	R .....
15	R .....
16	R .....
17	R .....
18	R .....
	COMPLETION OF CONTRACT
TOTAL	R .....

T2.1.09: CURRICULUM VITAE

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR TO DESIGN, SUPPLY, INSTALL AND COMMISSION A NEW AQUARIUM CONTROL SYSTEM FOR THE SOUTH AFRICAN NATIONAL BIODIVERSITY INSTITUTE (SANBI) AT THE NATIONAL ZOOLOGICAL GARDEN IN PRETORIA**
CONTRACT NO:	SANBI: NZG368/2020

Attach Curriculum Vitae (CVs) of all proposed personnel. All CVs are to be certified, in addition all foreign qualifications issued outside of South Africa must be accompanied by a SAQA (South African Qualification Authority) qualification report.

T2.1.10: DECLARATION OF INTEREST

Any person, including persons in the employ of the South African National Biodiversity Institute ; or persons acting on behalf of the South African National Biodiversity Institute performing business as a sole proprietor or in partnership; or persons acting in the capacity of a trustee/s of a trust; or any legal entity, including legal entities and trusts, of which the members, directors, shareholders, trustees and/or beneficiaries are in the employ of the South African National Biodiversity Institute or act on behalf of the South African National Biodiversity Institute, may make an offer or offers in terms of this tender invitation.

In view of the possible allegations of favouritism, should the resulting tender, or part thereof, be awarded to persons employed by the South African National Biodiversity Institute; or to persons who act on behalf of the South African National Biodiversity; or to persons connected or related to them, the Bidder/Tenderer or the Bidder/Tenderer's duly authorized representative shall disclose herein any relationship and/or kinship, including blood relation, which he/she; his/her Employer; the Bidder/Tenderer's management; members; directors; partners; shareholders; trustees; and/or beneficiaries may have with any person or persons in the employ of the South African National Biodiversity Institute and/or with any person or persons acting on behalf of the South African National Biodiversity Institute and who may directly or indirectly be involved in, and/or may be in a position to influence the adjudication and/or evaluation and/or award of this bid/tender.

In order to give effect to the above, the following questionnaire shall be completed and submitted with the tender. Failure to furnish the information requested in the questionnaire below may render the tender submission not to be considered at all.

(In answering the questions below, indicate the applicable answer with a ✔ and cross the other out)

9. Is the Bidder/Tenderer and/or the duly authorized representative in the employ of the South African National Biodiversity Institute

   ☐ YES ☐ NO

   If yes, state the full particulars of such person/s, together with their current position held as an employee of the South African National Biodiversity Institute.

   _____

   _____

10. Is the Bidder/Tenderer and/or the duly authorized representative in the employ of the person/s or legal entity acting on behalf of the South African National Biodiversity Institute, and who may directly or indirectly be involved in, and/or may be in a position to influence, the adjudication and/or evaluation and/or award of this tender?

    ☐ YES ☐ NO

    If yes, state the full particulars of such person/s, together with their current position held as an employee of such person/s or legal entity acting on behalf of the South African National Biodiversity Institute.

    _____

    _____

Any reference to words "Bid" or Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the words "Tender" or "Tenderer".

11. Does the Bidder/Tenderer, the Bidder's/Tenderer's duly authorised representative, and/or any of the Bidder's/Tenderer's employees, management, partners, members, directors, shareholders, trustees and/or beneficiaries have any relationship (family, friend, business- or financial interest) with a person, or persons in the employ of the South African National Biodiversity Institute and/or in the employ of the person/s or legal entity acting on behalf of the South African National Biodiversity Institute, and who may directly or indirectly be involved in, and/or may be in a position to influence, the adjudication and/or evaluation and/or award of this tender?

☐ YES ☐ NO

If yes, state the full particulars of the persons between whom the relationship exists, the nature of the relationship and the current position/status of such employee/s of the South African National Biodiversity Institute and/or of the person/s and/or legal entity acting on behalf of the South African National Biodiversity Institute herein.

_____

_____

I, the undersigned, _____

(name of the person duly authorised to sign the bid/tender documents on behalf of the Bidder/Tenderer) hereby certify that the information, furnished above, is correct in all respects. I accept and understand that the South African National Biodiversity Institute, may act against me and the Bidder/Tenderer, jointly and severally, should this declaration prove to be false.

Duly signed at _____ on this the _____ day of _____ (month)

_____ (year)

_____ _____

Full name of signatory Name of Bidder/Tenderer

_____ _____

Capacity of Signatory Signature

Commissioner of oaths stamp

T2.1.11: MEDICAL CERTIFICATE FOR THE CONFIRMATION OF PERMANENT DISABLED STATUS

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR TO DESIGN, SUPPLY, INSTALL AND COMMISSION A NEW AQUARIUM CONTROL SYSTEM FOR THE SOUTH AFRICAN NATIONAL BIODIVERSITY INSTITUTE (SANBI) AT THE NATIONAL ZOOLOGICAL GARDEN IN PRETORIA**
CONTRACT NO:	SANBI: NZG368/2020

I, _____ (*surname and name*), Identity number,

_____ do hereby declare that I am a registered medical practitioner, with my

practice number being _____, practicing at _____

_____(Physical and postal addresses) declare that I have examined Mr/Mrs

_____, identity number of

_____ and have found the said person to be permanently disabled

or having a recurring disability.

“Disability” means, in respect of a person, a permanent impairment of a physical, intellectual, or sensory function, which results in restricted, or lack of, ability to perform an activity in the manner, or within the range, considered normal for a human being.” – As per Preferential Procurement Policy Framework Act: No 5 of 2000 (PPPFA)

The nature of the disability is as follows:

_____

_____

_____

Thus signed at _____ on this day of _____ of _____.

_____ _____

Signature Date

OFFICIAL STAMP OF MEDICAL PRACTITIONER

T2.1.12: PROOF OF REGISTRATION WITH CONSTRUCTION INDUSTRY DEVELOPMENT BOARD

The Tenderer shall provide a printed copy of the Active Contractor's Listing off the CIDB website. (www.cidb.org.za). In the case of a joint venture, a printed copy of the Active Contractor's listing must be provided **for each member of the joint venture**.

Name of Contractor: .....

Contractor Grading Designation: .....

CIDB Contractor Registration Number: .....

T2.1.13: COPY OF CENTRAL SUPPLIERS DATABASE (CSD) REGISTRATION REPORT OR REGISTRATION NUMBER

A copy of CSD registration report or registration number must be included for evaluation purposes.

T2.1.14: FINANCIAL REFERENCES

Notes to tenderer:

1. The tenderer shall attach to this form a letter from the bank in which it is declared how he conducts his account. The contents of the bank's letter must state the credit rating that the bank, in addition to the information required below, accords to the tenderer for the business envisaged by this tender. Failure to provide the required letter with the tender submission may render the tenderer's offer unresponsive in terms of tender condition F3.8.

2. The tenderer's banking details as they appear below shall be completed.

3. In the event that the tenderer is a joint venture enterprise, details of all the members of the joint venture shall be similarly provided and attached to this form.

Details of Company's Bank

DESCRIPTION OF BANK DETAIL	BANK DETAILS APPLICABLE TO TENDERER'S HEAD OFFICE
Name of bank	
Branch name	
Branch code	
Street address	
Postal address	
Name of manager	
Telephone number	
Fax number	
Account number	

T2.1.15: RECORD OF ADDENDA TO TENDER DOCUMENTS

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR TO DESIGN, SUPPLY, INSTALL AND COMMISSION A NEW AQUARIUM CONTROL SYSTEM FOR THE SOUTH AFRICAN NATIONAL BIODIVERSITY INSTITUTE (SANBI) AT THE NATIONAL ZOOLOGICAL GARDEN IN PRETORIA**
CONTRACT NO:	SANBI: NZG368/2020

I / We confirm that the following communications received from the South African National Biodiversity Institute before the submission of this tender offer, amending the tender documents, have been taken into account in this tender offer: *(Attach additional pages if more space is required)*

	Date	Title or Details
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		

Name of Tenderer	Signature	Date

12. I / We confirm that no communications were received from the South African National Biodiversity Institute before the submission of this tender offer, amending the tender documents.

Name of Tenderer	Signature	Date

T2.1.16: COMPULSORY ENTERPRISE QUESTIONNAIRE

The following particulars must be furnished. In the case of a joint venture, separate enterprise questionnaires in respect of each partner must be completed and submitted.

Section 1: Name of enterprise: .....

Section 2: VAT registration number, if any: .....

Section 3: CIDB registration number, if any: .....

Section 4: Particulars of sole proprietors and partners in partnerships

Name*	Identity number*	Personal income tax number*

*Complete only if sole proprietor or partnership and attach separate page if more than 3 partners.

Section 5: Particulars of companies and close corporations

Company registration number: .....

Close corporation number: .....

Tax reference number: .....

Section 6: Record in the service of the state

Indicate by marking the relevant boxes with a cross, if any sole proprietor, partner in a partnership or director, manager, principal shareholder or stakeholder in a company or close corporation is currently, or has been within the last 12 months, in the service of any of the following:

□ a member of any municipal council □ a member of any provincial legislature □ a member of the National Assembly or the National Council of Province □ a member of the board of directors of any municipal entity □ an official of any municipality or municipal entity	□ an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No 1 of 1999) □ a member of an accounting authority of any national or provincial public entity □ an employee of Parliament or a provincial legislature

If any of the above boxes are marked, disclose the following:

*

Name of sole proprietor, partner, director, manager, principal shareholder or stakeholder	Name of institution, public office, board or organ of state and position held	Status of service (tick appropriate column)	
		Current	Within last 12 months

*Insert separate page if necessary.

Section 7: Record of spouses, children and parents in the service of the state

Indicate by marking the relevant boxes with a cross, if any spouse, child or parent or a sole proprietor, partner in a partnership or director, manager, principal shareholder or stakeholder in a company or close corporation is currently, or has been within the last 12 months, in the service of any of the following:

□ a member of any municipal council □ a member of any provincial legislature □ a member of the National Assembly or the National Council of Province □ a member of the board of directors of any municipal entity □ an official of any municipality or municipal entity		□ an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No 1 of 1999) □ a member of an accounting authority of any national or provincial public entity □ an employee of Parliament or a provincial legislature

*

Name of spouse, child or parent	Name of institution, public office, board or organ of state and position held	Status of service (tick appropriate column)	
		Current	Within last 12 months

*Insert separate page if necessary.

The undersigned, who warrants that he/she is duly authorised to do so on behalf of the enterprise:

(i) authorises the Employer to obtain a tax clearance certificate from the South African Revenue Services that my/our tax matters are in order;

(ii) confirms that neither the name of the enterprise or the name of any partner, manager, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears on the Register of Tender Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act, 2004;

(iii) confirms that no partner, member, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise, has within the last five years been convicted of fraud or corruption;

(iv) confirms that I/we are not associated, linked or involved with any other tendering entities submitting tender offers and have no other relationship with any of the Tenderers or those responsible for compiling the Scope of Work that could cause or be interpreted as a conflict of interest; and

(v) confirms that the contents of this questionnaire are within my personal knowledge and are to the best of my belief both true and correct.

Signed: ..... Date: .....

Name: ..... Position: .....

Enterprise name: .....

T2.1.17: OHS MANAGEMENT SYSTEM QUESTIONNAIRE

OHS Plan and completed Tenderer OHS Management System Questionnaire (based on the Baseline Risk Assessment, OHS Specifications and Tenderer OHS Management System Questionnaire attached)

SBD 6.2

DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS

This Standard Bidding Document (SBD) must form part of all bids invited. It contains general information and serves as a declaration form for local content (local production and local content are used interchangeably).

Before completing this declaration, bidders must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2011, the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 (Edition 1) and the Guidance on the Calculation of Local Content together with the Local Content Declaration Templates [Annex C (Local Content Declaration: Summary Schedule), D (Imported Content Declaration: Supporting Schedule to Annex C) and E (Local Content Declaration: Supporting Schedule to Annex C)].

1. General Conditions

1.1. Preferential Procurement Regulations, 2011 (Regulation 9) makes provision for the promotion of local production and content.

1.2. Regulation 9.(1) prescribes that in the case of designated sectors, where in the award of bids local production and content is of critical importance, such bids must be advertised with the specific bidding condition that only locally produced goods, services or works or locally manufactured goods, with a stipulated minimum threshold for local production and content will be considered.

1.3. Where necessary, for bids referred to in paragraph 1.2 above, a two stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.

1.4. A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.

1.5. The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

LC = [1 - x / y] * 100

Where

x is the imported content in Rand

y is the bid bid price in Rand excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by South African Reserve Bank (SARB) at 12:00 on the date of advertisement of the bid as indicated in paragraph 4.1 below.

The SABS approved technical specification number SATS 1286:2011 is accessible on http:/www.thedti.gov.za/industrial development/ip.jsp at no cost.

1.6. A bid may be disqualified if –

(a) this Declaration Certificate and the Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation; and

(b) the Bidder fails to declare that the Local Content Declaration Templates (Annex C, D and E) have been audited and certified as correct.

2. Definitions

2.1. "**bid**" includes written price quotations, advertised competitive bids or proposals;

2.2. "**bid price**" price offered by the Bidder, excluding value added tax (VAT);

2.3. "**contract**" means the agreement that results from the acceptance of a bid by an organ of state;

2.4. "**designated sector**" means a sector, sub-sector or industry that has been designated by the Department of Trade and Industry in line with national development and industrial policies for local production, where only locally produced services, works or goods or locally manufactured goods meet the stipulated minimum threshold for local production and content;

2.5. "**duly sign**" means a Declaration Certificate for Local Content that has been signed by the Chief Financial Officer or other legally responsible person nominated in writing by the Chief Executive, or senior member / person with management responsibility (close corporation, partnership or individual).

2.6. "**imported content**" means that portion of the bid price represented by the cost of components, parts or materials which have been or are still to be imported (whether by the supplier or its subcontractors) and which costs are inclusive of the costs abroad (this includes labour or intellectual property costs), plus freight and other direct importation costs, such as landing costs, dock duties, import duty, sales duty or other similar tax or duty at the South African port of entry;

2.7. "**local content**" means that portion of the bid price which is not included in the imported content, provided that local manufacture does take place;

2.8. "**stipulated minimum threshold**" means that portion of local production and content as determined by the Department of Trade and Industry; and

2.9. "**sub-contract**" means the primary contractor's assigning, leasing, making out work to, or employing another person to support such primary contractor in the execution of part of a project in terms of the contract.

3. The stipulated minimum threshold(s) for local production and content (refer to Annex A of SATS 1286:2011) for this bid is/are as follows:

Description of services, works or goods	Stipulated minimum threshold
Steel Value-added Products: Fasteners	100 %
Steel Value-added Products: Wire products	100 %

4. **Does any portion of the services, works or goods offered have any imported content?** (***Tick applicable box***)

YES		NO	

4.1 If yes, the rate(s) of exchange to be used in this bid to calculate the local content as prescribed in paragraph 1.5 of the general conditions must be the rate(s) published by SARB for the specific currency at 12:00 on the date of advertisement of the bid.

The relevant rates of exchange information is accessible on **www.reservebank.co.za.**

Indicate the rate(s) of exchange against the appropriate currency in the table below (refer to Annex A of SATS 1286:2011):

Currency	**Rates of exchange**
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

NB: Bidders must submit proof of the SARB rate (s) of exchange used.

5. Were the Local Content Declaration Templates (Annex C, D and E) audited and certified as correct? (***Tick applicable box***)

YES		NO	

5.1. If yes, provide the following particulars:

(a) Full name of auditor: ……..

(b) Practice number: …….

(c) Telephone and cell number: ……..

(d) Email address: ……

(Documentary proof regarding the declaration will, when required, be submitted to the satisfaction of the Accounting Officer / Accounting Authority)

6. Where, after the award of a bid, challenges are experienced in meeting the stipulated minimum threshold for local content the dti must be informed accordingly in order for the dti to verify and in consultation with the AO/AA provide directives in this regard.

LOCAL CONTENT DECLARATION
(REFER TO ANNEX B OF SATS 1286:2011)

LOCAL CONTENT DECLARATION BY CHIEF FINANCIAL OFFICER OR OTHER LEGALLY RESPONSIBLE PERSON NOMINATED IN WRITING BY THE CHIEF EXECUTIVE OR SENIOR MEMBER/PERSON WITH MANAGEMENT RESPONSIBILITY (CLOSE CORPORATION, PARTNERSHIP OR INDIVIDUAL)

IN RESPECT OF BID NO. .....

ISSUED BY: (Procurement Authority / Name of Institution):
.....

NB

1 The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the Bidder.

2 Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on http://www.thedti.gov.za/industrial development/ip.jsp. Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. **Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below.** Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful Bidder is required to continuously update Declarations C, D and E with the actual values for the duration of the contract.

I, the undersigned, ……..... (full names),
do hereby declare, in my capacity as …… ……..
of .....(name of Bidder entity), the following:

(a) The facts contained herein are within my own personal knowledge.

(b) I have satisfied myself that:

(i) the goods/services/works to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011; and

(ii) the declaration templates have been audited and certified to be correct.

(c) The local content percentage (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C:

Bid price, excluding VAT (y)	R
Imported content (x), as calculated in terms of SATS 1286:2011	R
Stipulated minimum threshold for local content (paragraph 3 above)	
Local content %, as calculated in terms of SATS 1286:2011	

If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above.

The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E.

(d) I accept that the Procurement Authority / Institution has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.

(e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Institution imposing any or all of the remedies as provided for in Regulation 13 of the Preferential Procurement Regulations, 2011 promulgated under the Preferential Policy Framework Act (PPPFA), 2000 (Act No. 5 of 2000).

SIGNATURE: _____ **DATE:** _____

WITNESS No. 1 _____ **DATE:** _____

WITNESS No. 2 _____ **DATE:** _____

SBD 8

DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

1 This Standard Bidding Document must form part of all bids invited.

2 It serves as a declaration to be used by institutions in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.

3 The bid of any Bidder may be disregarded if that Bidder, or any of its directors have-

a. abused the institution's supply chain management system;

b. committed fraud or any other improper conduct in relation to such system; or

c. failed to perform on any previous contract.

4 In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.

Item	Question	Yes	No
4.1	Is the Bidder or any of its directors listed on the National Treasury's database as companies or persons prohibited from doing business with the public sector? (Companies or persons who are listed on this database were informed in writing of this restriction by the National Treasury after the *audi alteram partem* rule was applied).	Yes ☐	No ☐
4.1.1	If so, furnish particulars:		
4.2	Is the Bidder or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)? **To access this Register enter the National Treasury's website, www.treasury.gov.za, click on the icon "Register for Tender Defaulters" or submit your written request for a hard copy of the Register to facsimile number (012) 326 5445.**	Yes ☐	No ☐
4.2.1	If so, furnish particulars:		
4.3	Was the Bidder or any of its directors convicted by a court of law (including a court outside of the Republic of South Africa) for fraud or corruption during the past five years?	Yes ☐	No ☐

Item	Question	Yes	No
4.3.1	If so, furnish particulars:		
4.4	Was any contract between the Bidder and any organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes ☐	No ☐
4.4.1	If so, furnish particulars:		

SBD 8

CERTIFICATION

I, THE UNDERSIGNED (FULL NAME) …… CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM IS TRUE AND CORRECT.

I ACCEPT THAT, IN ADDITION TO CANCELLATION OF A CONTRACT, ACTION MAY BE TAKEN AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.

……	……..……
Signature	**Date**
……	……
Position	**Name of Bidder**

SBD 9

CERTIFICATE OF INDEPENDENT QUOTATION DETERMINATION

1 This Standard Bidding Document (SBD) must form part of all quotations[1] invited.

2 Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging).[2] Collusive bidding is a *per se* prohibition meaning that it cannot be justified under any grounds.

3 Treasury Regulation 16A9 prescribes that accounting officers and accounting authorities must take all reasonable steps to prevent abuse of the supply chain management system and authorizes accounting officers and accounting authorities to:

a. disregard the bid of any Bidder if that Bidder, or any of its directors have abused the institution's supply chain management system and or committed fraud or any other improper conduct in relation to such system.

b. cancel a contract awarded to a supplier of goods and services if the supplier committed any corrupt or fraudulent act during the bidding process or the execution of that contract.

4 This SBD serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of bid-rigging.

5 In order to give effect to the above, the attached Certificate of Bid Determination (SBD 9) must be completed and submitted with the bid:

[1] Includes price quotations, advertised competitive bids, limited bids and proposals.

[2] Bid rigging (or collusive bidding) occurs when businesses, that would otherwise be expected to compete, secretly conspire to raise prices or lower the quality of goods and / or services for purchasers who wish to acquire goods and / or services through a bidding process. Bid rigging is, therefore, an agreement between competitors not to compete.

SBD 9

CERTIFICATE OF INDEPENDENT BID DETERMINATION

I, the undersigned, in submitting the accompanying bid:

SANBI: NZG368/2020

REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR TO DESIGN, SUPPLY, INSTALL AND COMMISSION A NEW AQUARIUM CONTROL SYSTEM FOR THE SOUTH AFRICAN NATIONAL BIODIVERSITY INSTITUTE (SANBI) AT THE NATIONAL ZOOLOGICAL GARDEN IN PRETORIA

I do hereby make the following statements that I certify to be true and complete in every respect:

I certify, on behalf of: _____that:

(Name of Bidder)

1. I have read and I understand the contents of this Certificate;

2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;

3. I am authorized by the Bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the Bidder;

4. Each person whose signature appears on the accompanying bid has been authorized by the Bidder to determine the terms of, and to sign the bid, on behalf of the Bidder;

5. For the purposes of this Certificate and the accompanying bid, I understand that the word "competitor" shall include any individual or organization, other than the Bidder, whether or not affiliated with the Bidder, who:
   (a) has been requested to submit a bid in response to this bid invitation;
   (b) could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and
   (c) provides the same goods and services as the Bidder and/or is in the same line of business as the Bidder

6. The Bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However communication between partners in a joint venture or consortium[1] will not be construed as collusive bidding.

[1] Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.

7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
    (a) prices;
    (b) geographical area where product or service will be rendered (market allocation)
    (c) methods, factors or formulas used to calculate prices;
    (d) the intention or decision to submit or not to submit, a bid;
    (e) the submission of a bid which does not meet the specifications and conditions of the bid; or
    (f) bidding with the intention not to win the bid.

8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.

9. The terms of the accompanying bid have not been, and will not be, disclosed by the Bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.

10. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

…… ……
Signature Date

…… ……
Position Name of Bidder

C1.1: FORM OF OFFER AND ACCEPTANCE

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR TO DESIGN, SUPPLY, INSTALL AND COMMISSION A NEW AQUARIUM CONTROL SYSTEM FOR THE SOUTH AFRICAN NATIONAL BIODIVERSITY INSTITUTE (SANBI) AT THE NATIONAL ZOOLOGICAL GARDEN IN PRETORIA**
CONTRACT NO:	SANBI: NZG368/2020

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a contract for the Appointment of a CONTRACTOR TO DESIGN, SUPPLY, INSTALL AND COMMISSION A NEW AQUARIUM CONTROL SYSTEM FOR THE SOUTH AFRICAN NATIONAL BIODIVERSITY INSTITUTE (SANBI) AT THE NATIONAL ZOOLOGICAL GARDEN IN PRETORIA.

The tenderer, identified in the Offer signature block, has examined the documents listed in the Tender Data and addenda thereto as listed in the Returnable Schedules, and by submitting this Offer has accepted the Conditions of Tender.

The tenderer, identified in the Offer signature block, has examined the draft contract as listed in the Acceptance section and agreed to provide this Offer.

By the representative of the tenderer, deemed to be duly authorised, signing this part of this Form of Offer and Acceptance the tenderer offers to perform all of the obligations and liabilities of the **Contractor** under the contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the conditions of contract identified in the Contract Data.

THE OFFERED TOTAL OF THE PRICES INCLUSIVE OF VAT IS:

(in words) …….. Rand;

R…… (in figures)

THE OFFERED PRICES ARE AS STATED IN THE PRICING SCHEDULE

This Offer may be accepted by the Employer by signing the Acceptance part of this Form of Offer and Acceptance and returning one copy of this document including the Schedule of Deviations (if any) to the tenderer before the end of the period of validity stated in the Tender Data, or other period as agreed, whereupon the tenderer becomes the party named as the **Contractor** in the conditions of contract identified in the Contract Data.

Signature(s) ……

Name(s) …… Capacity …….

For the tenderer: ……..

……..

(Insert name and address of organisation)

Name and signature of ……. Date …….

Witness: ……

Any reference to words “Bid” or Bidder” herein and/or in any other documentation shall be construed to have the same meaning as the words “Tender” or “Tenderer”.

Acceptance

By signing this part of this Form of Offer and Acceptance, the Employer identified below accepts the tenderer's Offer. In consideration thereof, the Employer shall pay the Contractor the amount due in accordance with the conditions of contract identified in the Contract Data. Acceptance of the tenderer's Offer shall form an agreement between the Employer and the tenderer upon the terms and conditions contained in this agreement and in the contract that is the subject of this agreement.

The terms of the Contract are contained in

Part C1 Agreements and Contract Data [which includes this Agreement]

Part C2 Pricing Data

Part C3 Scope of Work

Part C4 Site Information

and drawings and documents or parts thereof, which may be incorporated by reference into Parts C1 to C4 above.

Deviations from and amendments to the documents listed in the Tender Data and any Addenda thereto listed in the Tender Schedules, as well as any changes to the terms of the Offer agreed by the Tenderer and the Employer during this process of offer and acceptance, are contained in the Schedule of Deviations attached to and forming part of this Agreement. No amendments to or deviations from the said documents are valid unless contained in this Schedule, which must be duly signed by the authorised representative(s) of both parties.

The Tenderer shall within the time required to submit documentation in accordance with clause 5.3.2 of the Contract Data (C1.2) after receiving a completed copy of this Agreement, including the Schedule of Deviations (if any), contact the Employer's agent (whose details are given in the Contract Data) to arrange the delivery of any bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the Conditions of Contract identified in the Contract Data at, or just after, the date this Agreement comes into effect. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this Agreement.

Notwithstanding anything contained herein, this Agreement comes into effect on the date when the Tenderer receives one fully completed original copy of this document, including the Schedule of Deviations (if any). Unless the Tenderer (now Contractor) within five working days of the date of such receipt notifies the Employer in writing of any reason why he cannot accept the contents of this Agreement, this Agreement shall constitute a binding Contract between the parties.

Signature(s) ……

Name(s) ……

Capacity ……

For the Employer: ……

……

(Insert name and address of organisation)

Name and signature of …….. Date ……..

Witness: ……

Schedule of Deviations

1 Subject . . . . . .

Details . . . . . .

. . . . . .

. . . . . .

. . . . . .

2 Subject . . . . . .

Details . . . . . .

. . . . . .

. . . . . .

. . . . . .

3 Subject . . . . . .

Details . . . . . .

. . . . . .

. . . . . .

. . . . . .

4 Subject . . . . . .

Details . . . . . .

. . . . . .

. . . . . .

. . . . . .

5 Subject . . . . . .

Details . . . . . .

. . . . . .

. . . . . .

. . . . . .

By the duly authorised representatives signing this Schedule of Deviations, the Employer and the Tenderer agree to and accept the foregoing Schedule of Deviations as the only deviations from and amendments to the documents listed in the Tender Data and Addenda thereto as listed in the Tender Schedules, as well as any confirmation, clarification or change to the terms of the offer agreed by the Tenderer and the Employer during this process of offer and acceptance.

It is expressly agreed that no other matter whether in writing, oral communication or implied during the period between the issue of the Tender Documents and the receipt by the Tenderer of a completed signed copy of this Agreement shall have any meaning or effect in the Contract between the parties arising from this Agreement.

FOR THE TENDERER:

Signature(s) _____ _____

Name(s) _____ _____

Capacity _____ _____

_____

[Name and address of organisation]

Name and

signature of

witness _____ Date _____

FOR THE EMPLOYER:

Signature(s) _____ _____

Name(s) _____ _____

Capacity _____ _____

_____

[Name and address of organisation]

Name and

signature of

witness _____ Date _____

Any reference to words “Bid” or Bidder” herein and/or in any other documentation shall be construed to have the same meaning as the words “Tender” or “Tenderer”.

CONFIRMATION OF RECEIPT

The Tenderer (now Contractor), identified in the Offer part of this Agreement, hereby confirms receipt from the Employer, identified in the Acceptance part of this Agreement, of one fully completed original copy of this Agreement, including the Schedule of Deviations (if any) today:

The..... *[day]* of …….. *[month]* 20…….. *[year]*

at ..... *[place]*

For the Contractor: .....

Signature

.....

Name

.....

Capacity

Signature and name of witness: .....

Signature

.....

Name

C.1.2 Contract Data

PROJECT TITLE:	**REQUEST FOR BIDS FOR THE APPOINTMENT OF A CONTRACTOR TO DESIGN, SUPPLY, INSTALL AND COMMISSION A NEW AQUARIUM CONTROL SYSTEM FOR THE SOUTH AFRICAN NATIONAL BIODIVERSITY INSTITUTE (SANBI) AT THE NATIONAL ZOOLOGICAL GARDEN IN PRETORIA**
CONTRACT NO:	SANBI: NZG368/2020

C.1.2 Contract Data

The Conditions of Contract are the ***General Conditions of Contract for Construction Works (Second Edition, 2010)*** published by the South African Institution of Civil Engineering. Copies of these conditions of contract may be obtained from the South African Institution of Civil Engineering (Tel: 011-805 5947).

Each item of data given below is cross-referenced to the clause in the Conditions of Contract to which it mainly applies.

Part 1: Data provided by the Employer

Clause	Data
1.1.1.13	**Clause 1.1.1.13: Defects Liability Period** The Defects Liability Period is **12 months**, measured from the date of issue of the Certificate of Completion.
1.1.1.14	**Clause 1.1.1.14: Due Completion Date** The time for achieving Practical Completion is eighteen (18) months after the installation Commencement Date.
1.1.1.15	The name of the Employer is **The South African National Biodiversity Institute,** represented by Mr L. Mudimeli and/or such persons or person duly authorised to be the Employer in writing.
1.2.1.2	The Employer's address for receipt of communications is: **Delivery Address:** **Attention:** Supply Chain Manager: Supply Chain Management The South African National Biodiversity Institute 2 Cussonia Ave Brummeria, Pretoria **Postal Address:** **Attention:** Supply Chain Manager: Supply Chain Management The South African National Biodiversity Institute Private Bag X101 Silverton, 0184 South Africa
1.1.1.26	**Clause 1.3.: Pricing Strategy** The Pricing Strategy is a re-measurement contract
3.1.3	**Clause 3.1.3: Specific Approval of the Employer Required** The Engineer is required to obtain the specific approval of the Employer before executing any of the following functions or duties: 1 Clause 6.3: Variations 2 Clause 5.11.1: Suspension of the Works 3 Clause 5.12: Extension of Time for Practical Completion
5.3.1	**Clause 5.3.1: Commencement of the Works** The documentation required before commencement with Works execution are:

Any reference to words “Bid” or Bidder” herein and/or in any other documentation shall be construed to have the same meaning as the words “Tender” or “Tenderer”.

	Health and Safety Plan (Refer to Clause 4.3) Initial programme (Refer to Clause 5.6) Security (Refer to Clause 6.2) Insurance (Refer to Clause 8.6) Cash flow projection
5.3.2	**Clause 5.3.2: Timeframe to deliver documentation** The time to submit the documentation required before commencement with Works execution is **fourteen (14) days.**
5.4.2	The access and possession of Site shall not be exclusive to the Contractor but as set out in the Site Information.
5.8.1	**Clause 5.8.1: Non-Working Times** The non-working days are Saturdays and Sundays. The special non-working days are: 1. All gazetted public holidays falling outside the year end break. 2. The year-end break.
5.12.2.	**Clause 5.12.2.: Some reasons for extension of time** **Clause 5.12.2.2: Abnormal climatic conditions.** *Add the following:* Regardless of the cause of any delay an extension of time will only be considered if it can be shown that the activity delayed is on the critical path indicated on the Programme of Works (Clause 5.6.1). No extension of time will be granted in respect of any delays attributed to normal climatic conditions. Normal climatic conditions shall be deemed to include normal rainfall and associated wet conditions and materials, strong winds and extremes of temperature. However, in the event that delays to critical activities exceed the number of working days listed below for each month, then abnormal climatic conditions shall be deemed to exist, and an extension of time shall be granted in accordance with the provisions of that clause. The number of days quoted below shall be regarded as a fair estimate of the delays to be anticipated and allowed for under normal climatic conditions where inclement weather prevents or disrupts work on the critical path. January 4 days May 2 days September 2 days February 4 days June 2 days October 2 days March 2 days July 2 days November 5 days April 2 days August 2 days December 4 days Claims for delays for abnormal climatic conditions shall be accompanied by substantiating facts and evidence, which shall be submitted timeously as each day or half-day delay is experienced. Should an extension of time be granted by the Engineer such extension of time will be added to the Time for Completion. It shall be further noted that where the critical path is not affected, no extension of time for abnormal climatic conditions or for any other reason will be entertained. Rainfall of less than 2mm between 07:00 and 17:00 shall not be deemed to be an inclement weather day.
5.13.1	**Clause 5.13.1: Penalty for Delay** The penalty for failing to complete the Works is R2 000 per day after the installation start date.
5.16.3	**Clause 5.16.3: Latent defect liability** The latent defect period is ten (10) years for civil engineering works.
6.2	**Clause 6.2: Security** The Form of Guarantee is to contain the wording of the pro-forma document as per the contract document. The liability of the guarantee shall be for 10% of the Approved Contract Sum.
6.8.2	**Clause 6.8.2: Contract Price Adjustment** Contract Price Adjustment: Is not applicable.
6.8.3	**Clause 6.8.3: Variation in Cost of Special Materials** Price adjustments for variations in the costs of special materials are not allowed.
6.10.1.5	**Clause 6.10.1.5: Interim Payments - Materials on Site** No percentage advance on materials on site but not yet built into the Permanent Works is allowed for or will be paid.

6.10.3	**Clause 6.10.3: Retention Money** The percentage retention on the amounts due to the Contractor is 10% (ten percent). The limit of retention is 5% of the Contract Sum, including allowances for contingencies. This reduces to 2.5% upon the issue of the Certificate of Completion. The remaining 2.5% retention will be released upon the issue of the Final - Approval Certificate upon lapse of the defects liability period. Security plus Retention amount will not exceed 15% of the Contract Sum.
6.10.4	**Clause 6.10.4: Delivery, dissatisfaction with and payment of payment certificate** *Replace* "28 days" *in the second last sentence with* "30 days".
6.10.6	**Clause 6.10.6: Set-Off and Delayed Payments** A guarantee *in lieu* of retention is not permitted.
6.10.6.2	**Clause 6.10.6.2: Set-Off and Delayed Payments** *Replace the words* "prime overdraft rate certified by the Contractor's banker" *with the words* "interest rate as determined by the Minister of Finance, from time to time, in terms of section 80(1)(b) of the Public Finance Management Act, 1999 (Act No. 1 of 1999), will apply"
6.10.8	**Clause 6.10.8: Contractor's completion statement** *Replace* "28 days" *in the last sentence with* "30 days"
6.10.9	**Clause 6.10.9: Final payment certificate** *Replace* "28 days" *in the last sentence with* "30 days"
6.12	**Clause 6.12: Additional** *Add Clause 6.12 as follows:* In respect of any amount owed by the Contractor to the Employer, the Contractor shall pay the Employer interest at the rate as determined by the Minister of Finance, from time to time, in terms of section 80(1)(b) of the Public Finance Management Act, 1999 (Act No. 1 of 1999), will apply
8.6.1	**Clause 8.6.1: Insurance** *Add the following:* **Damage to the Works** (a) Without in any way limiting the Contractor's obligations in terms of the Contract, the Contractor shall bear the full risk of damage to and/or destruction of the Works by whatever cause during construction of the Works and hereby indemnifies and holds harmless the Employer against any such damage. The Contractor shall take such precautions and security measures and other steps for the protection and security of the Works, as he may deem necessary. (b) The Contractor shall at all times proceed immediately to remove or dispose of any debris arising from damage to or destruction of the Works and to rebuild, restore, replace and/or repair the Works. (c) The Employer shall carry the risk of damage to or destruction of the Works and material paid for by the Employer that is the result, whether direct or indirect or proximate or remote, of the excepted risks as set out in Clause 8.6.2. **(d)** Where the Employer bears the risk in terms of this Contract, the Contractor shall, if requested to do so, reinstate any damage or destroyed portions of the Works and the costs of such reinstatement shall be measured and valued in terms of Clause 6.7 hereof..
8.6.1.1.2	**Clause 8.6.1.1.2: Insurance** The value of the materials supplied by the Employer to be included in the insurance sum is -Nil.
8.6.1.1.3	**Clause 8.6.1.1.3: Insurance** The amount to cover professional fees for repairing damage and loss to be included in the insurance sum is Nil.
8.6.1.3	**Clause 8.6.1.3: Insurance** The limit of indemnity for liability insurance is R5 million for any single claim – the number of claims to be unlimited during the construction.
8.6.1.5	**Clause 8.6.1.5: Additional Insurance** Additional Insurance is required for the following: a) Where the contract involves manufacturing and/or fabrication of the works or part thereof at premises other than the Site, the Contractor shall satisfy the Employer that all materials and equipment for incorporation in the works are adequately insured during manufacture and/or fabrication. In the event of the Employer having an insurable interest in such works during manufacture or fabrication then such interest shall be noted by endorsement to the Contractor's Policies of Insurance.

10.5, 10.6, 10.7	**Clause 10.5, 10.6, 10.7: Dispute Resolution** Dispute resolution shall be by **Arbitration**.
11	**Clause 12: Confidentiality** The Contractor shall treat the details of the Works comprised in this Contract as private and confidential (save in so far as may be necessary for the purposes hereof) and shall not publish or disclose the same or any particulars thereof in any trade or technical paper elsewhere without prior written consent of the Engineer.
12	**Clause 13: Amendments in writing** No amendments of this Contract or of any provisions or terms hereof and no waiver or relaxation or suspension of any of the provisions or terms of this Contract shall be of any force or effect unless reduced to writing and signed by both the parties hereto.

PART 2: DATA PROVIDED BY THE CONTRACTOR

Clause

1.1.1.9 The Contractor is ……

1.2.1.2 The Contractor's address for receipt of communications is:

Physical address:	Postal address:
.....	.....
.....	.....
.....	.....
.....	.....

Telephone: .....

Fax: .....

Email: .....

C1.3 FORM OF GUARANTEE

GUARANTOR DETAILS AND DEFINITIONS

"Guarantor" means: .....

Physical address: .....

"Employer" means: .....

"Contractor" means: .....

"Engineer" means: .....

"Works" means: .....

"Site" means: .....

"Contract" means: The Agreement made in terms of the Form of Offer and Acceptance and such amendments or additions to the Contract as may be agreed in writing between the parties.

"Contract Sum" means: The accepted amount inclusive of tax of R .....

Amount in words: .....

"Guaranteed Sum" means: The maximum aggregate amount of R.....

Amount in words: .....

"Expire Date" means: .....

CONTRACT DETAILS

Engineer issues: Interim Payment Certificates, Final Payment Certificate and the Certificate Completion of the Works as defined in the Contract.

PERFORMANCE GUARANTEE

1 The Guarantor's liability shall be limited to the amount of the Guaranteed Sum.

2 The Guarantor's period of liability shall be from and including the date of issue of this Performance Guarantee and up to and including the Expiry Date or the date of issue by the Engineer of the Certificate of Completion of the Works or the date of payment in full of the Guaranteed Sum, whichever occurs first. The Engineer and/or the Employer shall advise the Guarantor in writing of the date on which the Certificate of Completion of the Works has been issued.

3 The Guarantor hereby acknowledge that:

3.1 any reference in this Performance Guarantee to the Contract is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory obligation or any intention whatsoever to create a suretyship;

3.2 its obligation under this Performance Guarantee is restricted to the payment of money.

4 Subject to the Guarantor's maximum liability referred to in 1, the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in 4.1 to 4.3:

4.1 A copy of a first written demand issued by the Employer to the Contractor stating that payment of a sum certified by the Engineer in an Interim or Final Payment Certificate has not been made in terms of the Contract and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of 4.2.

4.2 A first written demand issued by the Employer to the guarantor at the Guarantor's physical address with a copy to the Contractor stating that a period of seven (7) days has elapsed since the first written demand in terms of 4.1 and the sum certified has still not been paid.

4.3 A copy of the aforesaid payment certificate which entitles the Employer to receive payment in terms of the Contract of the sum certified in 4.

5 Subject to the Guarantor's maximum liability referred to in 1, the Guarantor undertakes to pay to the Employer the Guaranteed Sum or the full outstanding balance upon receipt of a first written demand from the Employer to the Guarantor at the Guarantor's physical address calling up this Performance Guarantee, such demand stating that:

5.1 the Contract has been terminated due to the Contractor's default and that this Performance Guarantee is called up in terms of 5, or

5.2 a provisional or final sequestration or liquidation court order has been granted against the Contractor and that the Performance Guarantee is called up in terms of 5, and

5.3 the aforesaid written demand is accompanied by a copy of the notice of termination and/or the provisional/final sequestration and/or the provisional liquidation court order.

6 It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 4 and 5 shall not exceed the Guarantor's maximum liability in terms of 1.

7 Where the Guarantor has made payment in terms of 5, the Employer shall upon the date of issue of the Final Payment Certificate submit an expense account to the Guarantor showing how all monies received in terms of this Performance Guarantee have been expended and shall refund to the Guarantor any resulting surplus. All monies refunded to the Guarantor in terms of this Performance Guarantee shall bear interest at the prime overdraft rate of the Employer's bank compounded monthly and calculated from the date payment was made by the Guarantor to the Employer until the date of refund.

8 Payment by the Guarantor in terms of 4 or 5 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor.

9 Payment by the Guarantor in terms of 5 will only be made against the return of the original Performance Guarantee by the Employer.

10 The Employer shall have the absolute right to arrange his affairs with the Contractor in any manner which the Employer may deem fit and the Guarantor shall not have the right to claim his release from this Performance Guarantee on account of any conduct alleged to be prejudicial to the Guarantor.

11 The Guarantor chooses the physical address as stated above for the service of all notices for al purposes in connection herewith.

12 This Performance Guarantee is neither negotiable nor transferable and shall expire in terms of 2, where after no claims will be considered by the Guarantor. The original of this Guarantee shall be returned to the Guarantor after it has expired.

13 This Performance Guarantee, with the required demand notices in terms of 4 or 5, shall be regarded as a liquid document for the purposes of obtaining a court order.

14 Where this Performance Guarantee is issued in the Republic of South Africa the Guarantor hereby consents in terms of Section 45 of the Magistrate's Courts Act No 32 of 1944, as amended, to the jurisdiction of the Magistrate's Court of any district having jurisdiction in terms of Section 28 of the said Act, notwithstanding that the amount of the claim may exceed the jurisdiction of the Magistrate's Court.

Signed at .....

Date .....

Guarantor's signatory: (1) .....

Capacity.....

Guarantor's signatory: (2) .....

Part C2: Pricing Data and Bill of Quantities

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	Bill Of **Quantities**	

C2.1. Pricing Instructions

1. Measurement and payment clauses of the COLTO (1998)/SABS 1200 Standardised Specifications, as well as the Particular Specifications, shall be deemed to form part of and included in the pricing instructions.

2. The units of measurement described in the Bill of Quantities are metric units. Abbreviations used in the Bill of Quantities are as follows:

%	=	percent	m^2.pass	=	square metre-pass
h	=	hour	m^3	=	cubic metre
ha	=	hectare	m^3.km	=	cubic metre-kilometre
kg	=	kilogram	MN	=	meganewton
kl	=	kilolitre	MN.m	=	meganewton-metre
km	=	kilometre	MPa	=	megapascal
km-pass	=	kilometre-pass	No.	=	number
kPa	=	kilopascal	Prov sum	=	Provisional sum
kW	=	kilowatt	P C sum	=	Prime Cost sum
l	=	litre	sum	=	lump sum
m	=	metre	t	=	ton (1 000 kg)
mm	=	millimetre	W/day	=	Work day
m^2	=	square metre			

3. Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.

4. The prices and rates to be inserted in the Bill of Quantities are to be the full inclusive prices for the work described under the items. Such prices and rates shall cover all costs and expenses that may be required in accordance with the provisions of the Scope of Work, and shall cover the cost of all general risks, liabilities, and obligations set forth or implied in the Contract Data, as well as overhead charges and profit. These prices shall be used as a basis for assessment of payment for additional work that may have to be carried out.

5. It will be assumed that prices included in the Bill of Quantities are based on Acts, Ordinances, Regulations, By-laws, International Standards and National Standards that were published 28 days before the closing date for tenders. (Refer to **www.sabs.co.za** or **www.iso.org** for information on standards).

6. Where the Scope of Work requires detailed drawings or other information to be provided, all costs associated therewith are deemed to have been provided for and included in the unit rates and sum amount Tenderer for such items.

7. An item against which no price is entered will be considered to be covered by the other price s or rates in the Bill of Quantities. A single lump sum will apply should a number of items be grouped together for pricing purposes.

8. The quantities set out in the Bill of Quantities are approximate and do not necessarily represent the actual amount of work to be done. The quantities of work accepted and certified for payment will be used for determining payments due and not the quantities given in the Bills of Quantities.

9. Pricing in the Schedules **shall not include Value Added Tax (VAT).** Provision is made in the Summary to the Schedule of Quantities for VAT to be added.

10. Reasonable compensation will be received where no pay item appears in respect of work required in the Bills of Quantities in terms of the Contract and which is not covered in any other pay item.

11. The short descriptions of the items of payment given in the Bill of Quantities are only for the purposes of identifying the items. More details regarding the extent of the work entailed under each item appear in the Scope of Work.

12. The Bill of Quantities has been drawn up in accordance with the latest issue of the COLTO (1998)/SABS1200 Standardised Specifications. Descriptions in the Bill of Quantities are abbreviated and must be read in conjunction with the measurement and payment clauses of the applicable specifications.

C2.2. Bill of Quantities

SECTION A: PRELIMINARY AND GENERAL

Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount (Excl. VAT) Rc
	SANS 1200A	**VALUE ADDED TAX**				
		The Contractor Shall Price All Items Exclusive Of Vat And Shall Add The Vat Payable Separately As Indicated In The Final Summary.				
	8.3	**FIXED PRICE**				
		REFERENCE TO CONTRACT				
		The items in these Bills of Quantities shall be read in conjunction with all other relevant parts of the Tender Document.				
		Note: All requirements not specified are deemed to be included in the general pricing.				
	SANS 1200A	**PRELIMINARY AND GENERAL (Applicable to the whole of the Works)**				
A		**SECTION A: PRELIMINARY AND GENERAL:**				
A1		**SCHEDULE NO. 1**				
A1.1	8.3	**FIXED CHARGE ITEMS**				
		The sums stated for items under this heading shall cover the cost of providing, establishing and commissioning on the site the facilities adequately equipped to enable all the work to commence and to proceed to completion as required in terms of the contract. The sums shall also cover (where appropriate) the cost of demolition of and the removal from the site of all items established and shall include for making good and restoring the site to the satisfaction of the Engineer.				
A1.1.1	8.3.1	Contractual requirements.				
A1.1.1.1		Insurance as per Conditions of Contract	SUM	1		
A1.1.1.2		Programmes Required	SUM	1		

Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount (Excl. VAT) R c
A1.1.1.3		Suretyship as per Conditions of Contract	SUM	1		
A1.1.1.4		Performance Bond Security as per Conditions of Contract	SUM	1		
A1.1.1.5		Insurance	SUM	1		
A1.1.1.6		Warranty	SUM	1		
A1.1.1.7		Taxes, duties and permits	SUM	1		
A1.1.1.8		Quality Assurance	SUM	1		
A1.1.1.9		All other Contractual requirements	SUM	1		
A1.1.2	8.3.2	Establishment of Facilities on the Site				
	8.3.2	Facilities for Engineer				
A1.1.2.1	8.3.2.1a	Furnished Offices	SUM	1		
A1.1.2.2	8.3.2.1b	Telephone Facilities	SUM	1		
A1.1.2.3	8.3.2.1c	Protective clothing	SUM	1		
A1.1.2.4	8.3.2.1d	Name boards	SUM	1		
	8.3.2.2	Facilities for Contractor				
A1.1.2.5	8.3.2.2a	Living accommodation.	SUM	1		
A1.1.2.6	8.3.2.2b	Tools and equipment.	SUM	1		
A1.1.2.7	8.3.2.2c	Plant (including delivery, offloading of major equipment)	SUM	1		
A1.1.2.8	8.3.2.1d	Telephone Facilities	SUM	1		
A1.1.2.9	8.3.2.1e	Source and disposal of Materials	SUM	1		
A1.1.2.10	8.3.2.1f	Sanitary Facilities	SUM	1		
A1.1.2.11	8.3.2.1g	Protective Clothing	SUM	1		
		Features requiring special attention				
A1.1.2.11	8.3.2.1h	Safety, Health and Environmental (SHE) (Allow for Compliance with the Occupational Health and Safety act as stipulated in the Works information document)	SUM	1		

Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount (Excl. VAT) R c
A1.1.2.12	8.3.2.1i	Guarantees	SUM	1		
A1.1.2.13	8.3.2.1j	Site Meetings	SUM	1		
A1.1.2.14	8.3.2.1k	Testing Authority and Quality Assurance	SUM	1		
A1.1.2.15	8.3.2.1l	Site Supervision	SUM	1		
A1.1.2.16	8.3.2.1m	Cleaning of Site	SUM	1		
A1.1.2.17	8.3.2.1n	Risk Assessment/HAZOP	SUM	1		
A1.1.2.18	8.3.2.1o	Documentation (Installation, Operation and Maintenance Manuals, training material, etc. – as described fully under Technical Scope)	SUM	1		
A1.1.3	8.3.3	Other fixed charge obligations.				
		Note: All requirements not specified are deemed to be included elsewhere				
A1.1.3.1		All other fixed charge obligations	SUM	1		
A1.1.4	8.3.4	Removal of site establishment.				
		Note: All requirements not specified are deemed to be included elsewhere				
A1.1.4.1		Removal of site establishment and re - instatement on completion	SUM	1		
	Sub Total	**Section A Schedule No. 1 - Fixed Charge Items**				

Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount (Excl. VAT) R c
A		**SECTION A: PRELIMINARY AND GENERAL:**				
A2		**SCHEDULE NO. 2**				
A2.1	8.4	**TIME RELATED ITEMS**				
		The sums stated for items under this heading shall cover all the Contractor's Time Related costs, related to contractual obligation and shall include, but not be limited to site rentals, repairs to, and depreciation of, buildings and furniture, the wages of staff, operating and maintaining these facilities in accordance with the requirements of the Contract.				
		For Pricing of these items, due cognisance must be taken of the Conditions of Contract, the drawings and the SHE Specification				
A2.1.1	8.4.1	Contractual requirements.				
A2.1.1.1		Insurance as per Conditions of Contract	SUM	1		
A2.1.1.2		Programmes Required	SUM	1		
A2.1.1.3		Suretyship as per Conditions of Contract	SUM	1		
A2.1.1.4		Performance Bond Security as per Conditions of Contract	SUM	1		
A2.1.1.5		Insurance	SUM	1		
A2.1.1.6		Warranty	SUM	1		
A2.1.1.7		Taxes, duties and permits	SUM	1		
A2.1.1.8		Quality Assurance	SUM	1		
A2.1.1.9		All other Contractual requirements	SUM	1		
A2.1.2	8.4.2	Operation and Maintenance of Facilities on Site, for Duration of Construction, (unless otherwise stated)				
	8.4.2.1	Facilities for Engineer				
A2.1.2.1	8.4.2.1a	Furnished Offices	SUM	1		
A2.1.2.2	8.4.2.1b	Telephone Facilities	SUM	1		
A2.1.2.3	8.4.2.1c	Protective Clothing	SUM	1		

Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount (Excl. VAT) R c
A2.1.2.4	8.4.2.1d	Name boards	SUM	1		
	8.4.2.2	Facilities for Contractor				
A2.1.2.5	8.4.2.2a	Living accommodation.	SUM	1		
A2.1.2.6	8.4.2.2b	Tools and equipment.	SUM	1		
A2.1.2.7	8.4.2.2d	Plant (including delivery, offloading of major equipment)	SUM	1		
A2.1.2.8	8.4.2.2e	Telephone Facilities	SUM	1		
A2.1.2.9	8.4.2.2f	Source and disposal of Materials	SUM	1		
A2.1.2.10	8.4.2.2g	Sanitary Facilities	SUM	1		
A2.1.2.11	8.4.2.2h	Protective Clothing	SUM	1		
		Features requiring special attention				
A2.1.2.13	8.4.2.2i	Safety, Health and Environmental (SHE) (Allow for Compliance with the Occupational Health and Safety act as stipulated in the Works information document)	SUM	1		
A2.1.2.14	8.4.2.2j	Guarantees	SUM	1		
A2.1.2.15	8.4.2.2k	Site Meetings	SUM	1		
A2.1.2.16	8.4.2.2l	Testing Authority and Quality Assurance	SUM	1		
A2.1.2.17	8.4.2.2 m	Site Supervision	SUM	1		
A2.1.2.18	8.4.2.2n	Cleaning of Site	SUM	1		
A2.1.3	8.4.3	Supervision				
		Note: A breakdown of the contractor's organisation structure and resources to be provided, including a mobilization histogram)				
A2.1.3.1		Supervision for duration of construction.	SUM	1		
A2.1.4	8.4.4	Company and Head Office				
A2.1.4.1		Company and head office overhead costs for duration of construction.	SUM	1		

Item No	Payment Clause	Short Description	Unit	Quantity	Rate	Amount (Excl. VAT) R c
A2.1.5	8.4.5	Other time related obligations				
		Note: All requirements not specified are deemed to be included elsewhere				
A2.1.5.1		All other time related obligations	SUM	1		
A2.2	8.7	**DAYWORK**				
		Note: These rates are included for the purpose of assessment and all other rates are deemed inclusive of the relevant labour costs intended to execute the whole of the works.				
A2.2.1	8.7a	Artisan	R/HOUR			Rate only
A2.2.2	8.7b	Labourer	R/HOUR			Rate only
A2.2.3	8.7c	Operator / Machine operator	R/HOUR			Rate only
A2.2.4	8.7d	Supervisor E&I	R/HOUR			Rate only
A2.2.5	8.7e	Contractor's manager	R/HOUR			Rate only
A2.2.6	8.7f	QC - E&I	R/HOUR			Rate only
A2.2.7	8.7g	Construction and Commissioning Manager	R/HOUR			Rate only
A2.2.8	8.7h	Master Electrician	R/HOUR			Rate only
A2.2.9	8.7i	Software developer	R/HOUR			Rate only
	Sub Total	**Section A Schedule No. 2 - Time Related Items**				
	Sub Total	**SECTION A - 1200 A: PRELIMINARY AND GENERAL**				

SCHEDULE B: PROFESSIONAL FEES

Item No	Payment Clause	Short Description	Unit	Estimated No. of hours	Rate per hour	Amount (Excl. VAT) R c
		Professional fees				
		(List below all professionals required for this project)				
B.1		Project Manager	Hours			
B.2		Construction & Commissioning Manager	Hours			
B.3		Site work team: Installation and commissioning (engineers, technicians, contractors, to be clearly specified)	Hours			
B.4		Electrical Engineer	Hours			
B.5		Master Electrician	Hours			
B.6		Software developer	Hours			
		And Other:				
B.7			Hours			
B.8			Hours			
B.9			Hours			
B.10			Hours			
B.11			Hours			
B.12			Hours			
B.13			Hours			
B.14			Hours			
B.15			Hours			
SUB-TOTAL		**SCHEDULE B: PROFESSIONAL FEES**				

SCHEDULE C: DESIGN, SUPPLY, INSTALL AND COMMISSION THE CONTROL SYSTEM

Item No	Payment Clause / Scope of work section	Short Description	Unit	Quantity	Rate	Amount (Excl. VAT) R c
		Control & Instrumentation				
C.1		Develop aquarium control philosophy	No.	1		
C.2	**C3.1.4**	Deliver control system design	Sum	1		
C.3		Disconnect all cables and remove current PLC panel	No.	1		
C.4		Supply, manufacture and deliver control system as per approved design, complete with fieldbus interface to electrical systems (MCC)	No.	1		
C.5		Install control system, complete with fieldbus interface and terminations to electrical systems (MCC)	No.	1		
C.6		Commission control system, complete with fieldbus interface to electrical systems (MCC)	No.	1		
C.7		Supply, deliver and install PT100 temperature probe, complete with cable terminations	No.	20		
		Reverse osmosis water plant				
C.8	**C3.1.5.2**	Service and repair water plant	Prov. sum	1	R600 000.00	R600 000.00
C.9		Sub-contractor management fee (% of line item C.8)	%			
		Electrical				
C.10	**C3.1.4**	Deliver MCC design	Sum	1		
C.11		Supply, manufacture and deliver MCC as per approved design	No.	1		
C.12		Disconnect all cables and remove current MCC	No.	1		
C.13		Install new MCC, complete with all power, actuator and fieldbus terminations	No.	1		
C.14		Commission MCC	No.	1		
		General				
C.15	**C3.1.5.5**	Training	No.	5		

Any reference to words “Bid” or Bidder” herein and/or in any other documentation shall be construed to have the same meaning as the words “Tender” or “Tenderer”.

C.16		COC for complete installation	Sum	1		
C.17	**C3.1.5.6**	Maintenance and after service (36 months)	Sum	1		
C.18		Removal of redundant cable	Sum	1		
SUB-TOTAL		**SCHEDULE C: DESIGN, SUPPLY, INSTALL AND COMMISSION THE CONTROL SYSTEM**				

SUMMARY

		Amount (Excl. VAT)
	SCHEDULE A	
	SCHEDULE B	
	SCHEDULE C	

NET TOTAL OF TENDER

Add 15% for Value Added Tax

GROSS TOTAL OF TENDER
Carried to Tender Form

Signed on behalf of Tenderer

_____

Date

_____

Part C3: Scope of Works

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Status

Should any requirement or provision in the parts of the Scope of Work conflict with any requirement of any Standardised Specification, Particular Specification or any drawings, the order of precedence, unless otherwise specified, is:

Scope of Work

Standardised Specifications

Drawings

C3.1 Description of the Works

C3.1.1 Employer's Objectives

The objective of this upgrade is to replace the existing control system and Motor Control Centre (MCC) for the aquarium at SANBI National Zoological Garden (NZG) Pretoria. The existing systems have failed because these systems have reached the end of their useful working lifespan. These systems are critical for running the life support systems (LSS) in the aquarium, which in turn are critical for the health and wellbeing of the livestock kept in the aquarium.

The works is located in the aquarium section at SANBI NZG.

Reference must be made to the Bill of Quantities found in this document. Please also refer to the addendums in this document which shows the relevant kW ratings of the pumps and heaters for the different exhibits. The addendums also contain other critical information like equipment data sheets and the control network infrastructure.

C3.1.2 Overview of the Works

C3.1.2.1 Control System

a) The complete control system shall be re-designed, manufactured, supplied, delivered, installed and commissioned as per the details of work.

b) For the purposes of this document, the control system includes the instrumentation, interconnecting cabling, I/O modules, controllers, human machine interface (HMI) and communication network.

c) Removal of redundant cables.

C3.1.2.2 Reverse Osmosis Water Plant

The reverse osmosis unit shall be serviced and repaired as per the details of work.

C3.1.2.3 Motor Control Centre and Electrical Installation

a) A replacement Motor Control Centre (MCC) shall be designed and installed as per the details of work.

b) The current functionality of the lighting system shall be implemented by the control system.

C3.1.2.4 Testing and Commissioning

Testing and commissioning of the complete installation.

C3.1.2.5 Training

Training of operators to operate the new installation, as well as maintenance on the newly supplied equipment as per the details of work.

C3.1.2.6 Maintenance and After Service Agreement

The successful contractor shall enter into a 36 month, 24 hours/365 days' emergency support service level agreement with the Employer.

C3.1.3 Documentation

a) The Contractor shall submit to the Engineer, as a minimum, all documents as specified in Annexure 6: Document / Deliverable list.

b) Design documentation shall be reviewed and approved by the Engineer before procurement of equipment or manufacturing can take place.

c) Documents and drawings revision control shall be as per the Employer's standard:

   i) Revision A – Internal review (Contractor's internal review)

   ii) Revision B/C and further revisions as required – Engineer's squad check

   iii) Revision (next alphabet number) – Engineer's final approval

   iv) Revision 0 – For construction

   v) Revision 1 – For construction change/correction/modification

   vi) Revision * - As-built

d) Drawings shall be in AutoCAD format.

e) As-built documents incorporating all new and existing equipment shall be submitted in a Manufacturing Data Book (MDB) of which the index shall be submitted for approval prior to delivery.

f) The Engineer's review and approval of Contractor's documents does not relieve the Contractor of the design responsibilities, accuracy of dimensions and compliance to applicable regulations, specifications and standards.

C3.1.4 Details of Work

C3.1.4.1 Detailed Scope of Work for the Control System

a) The Contractor shall design, supply, deliver, install, test and commission a control system consisting of a new HMI and PLC.

b) The Contractor shall conduct site visit/s to analyse the software of the existing PLC and SCADA to document the as-installed control philosophy.

c) No design documentation is available for the existing system.

d) The Contractor shall develop a control philosophy, based on the as-installed control, revised to address the changes to equipment and process operation as specified in the Design and Construction section.

e) Refer to the concept control system architecture drawing in Annexure 3. The drawing illustrates the proposed fieldbus communication with the all-in-one starter controllers, as well as interfaces with instrumentation.

f) The Contractor shall use the concept control system architecture to develop a detailed, product and protocol specific control system architecture.

g) The Contractor shall conduct site visit/s to document the as-installed status of the sensors, controllers, actuators, heater and interconnecting cables.

h) The control philosophy, control system architecture and as-installed documentation shall be used by the Contractor as a design basis to design and document the complete control system. Refer to Annexure 6 for the list of design deliverables to be included with the design submission.

i) The Contractor shall remove the existing PLC panel and SCADA system and replace them with a new PLC and human machine interface (HMI).

j) Existing control cables shall be disconnected from the old PLC panel and re-used with the new PLC panel.

k) Cable management and supports shall be designed and installed to provide a wall mounted, covered route between the PLC panel and ceiling within the constraints of cable bending radii.

l) A fieldbus network shall be designed, supplied and installed as per the control system architecture (Annexure 3) to interface the control system with the new MCC.

m) The Contractor shall develop the PLC software and the HMI graphics/software in accordance with the approved control philosophy.

n) The latest version of engineering software, application software including licenses needed to operate and maintain the control system (for both the PLC and HMIs) shall be included as part of the control system.

o) The Contractor shall supply equipment as per the datasheets attached in Annexure 4.

    i) The outstanding information on these datasheets shall be completed by the Contractor to identify equipment offered.

    ii) The datasheets shall be submitted with tender submission.

p) All equipment used shall have the relevant SANS approval.

C3.1.4.2 Detailed Scope of Work for Reverse Osmosis Water Plant

a) The Contractor shall get the existing supplier and at least two others to quote on refurbishment and replacement of the current Aquaplan reverse osmosis water plant.

b) These quotes will be discussed with the Engineer and evaluated to determine the way forward.

c) The Sub-contractor to implement the refurbishment or replacement of the reverse osmosis system, shall be appointed and managed by the Contractor.

d) If the reverse osmosis system is to be replaced, the same procedure for design approval and design documentation shall be followed as stipulated in this scope of work document.

e) The Aquaplan reverse osmosis water plant shall send information to the PLC to be displayed on the HMI, however, the water plant shall remain a standalone system able to independently operate without the PLC/HMI.

C3.1.4.3 Detailed scope of work for the MCC and electrical installation

a) The contractor shall design, supply, deliver, install, test and commission a new Motor Control Centre (MCC) complete with starters and associated control.

b) The contractor shall remove the existing MCC and replace it with a new one.

c) Care and planning shall be exercised for minimal disruption on the critical life support systems.

   i) To meet his objective the Contractor shall develop a changeover plan.

   ii) The plan shall address the need for additional shifts to execute the changeover in time, and alternative means of running pumps if necessary. Costs for this item should be allowed for in the design deliverables and installations costs.

d) The new MCC shall be installed and operation of pumps and heaters restored within 2 days.

e) The busbars and main circuit breaker sizes/current ratings on the MCC are to be correctly sized for correct coordination by the Contractor.

f) Detail design drawings are to be submitted to the Engineer for approval before procurement, construction or installation may commence by the Contractor. Refer to Annexure 6 for the deliverable list as well as what documentation is to be submitted at what stage of the process.

g) Design and layout of the MCC shall be done in such a way that the existing cable can still reach the field termination point.

h) The current lighting circuits are controlled via the existing control system. This control shall also be available on the new MCC as per the current functionality.

i) All equipment used shall have the relevant SANS approval.

C3.1.4.4 Detailed Scope of Work for Testing and Commissioning

a) Once the installation has been completed, the Contractor shall test, adjust and commission each control loop and system and shall verify proper operation of each item in the sequences of operation, including hardware and software and all communication links before the system is placed on-line.

b) During the testing and commissioning period, the Contractor shall identify failures, determine causes of failures and deliver a written report to the Engineer detailing the nature of each failure, the corrective action taken, results of tests performed and shall recommend when testing should be resumed.

C3.1.4.5 Detailed Scope of Work for Training

a) Training is required by the Employer and shall be included in the tender price.

b) The Contractor shall be responsible for the training of five of the Employer's staff.

c) The training shall take place on location, at the National Zoological Garden. The Employer will provide suitable facilities for the training.

C3.1.4.6 Detailed Scope of Work for Maintenance and After Service Agreement

a) As a condition of the contract the successful Contractor shall, at the discretion of the Employer, enter into an emergency support service level agreement with the Employer for a period of 36 months commencing from the date of contract completion.

b) Should the service agreement be awarded, the first year of the service agreement will overlap the 12 months defects and liability period.

c) The contract shall be reviewed annually and extended at the discretion of the Employer.

d) The service level agreement shall include the following:

Emergency services working days		
1	Working days (Monday to Friday excluding public holidays) emergency support	Included
2	Site visits and inspections, 12 per year. Inspection report required	Included
3	Spare part holding at Contractor's premises	Excluded
4	Remote access support (via VPN)	Included
5	Replacement of equipment within guarantee period	Included
Preventive maintenance		
6	Preventive maintenance (monthly programme)	Included
7	Preventive replacement equipment	Excluded
IT services		
8	Update installation of firmware and patches	Included
9	Disaster recovery configuration back-ups	Included
Others		
10	Equipment repair out of guarantee	Excluded
11	Travel and living	Included
12	Modifications and expansions	Excluded

C3.1.5 Equipment Failure

a) The Contractor shall develop and supply an equipment failure recovery manual.

b) This document shall address the replacement of all major equipment, including the PLC, HMI and the intelligent all-in-one starter controllers.

c) The document shall specifically detail the upload of software to a new PLC, HMI and an intelligent all-in-one starter controller.

C3.1.6 Location of the Works

The project is located at the National Zoological Garden, South Africa.

C3.1.7 Description of Site and Access

The National Zoological Garden service entrance can be accessed via Boom Street. The area for installation can be accessed via paved road within the zoo premises.

C3.1.8 Programme

The Contractor is to note that the overall turnkey system should be supply-ready within 3 months of tender acceptance. Installation will take place upon further communication by the NZG, followed by commissioning and training. The warrantee period for the system is to commence upon installation completion. A three-year maintenance contract is to be included in the bid, as well as after-service support availability and tariffs to be included in the bid.

C3.2 Design and Construction

C3.2.1 Works Specifications

C3.2.1.1 Applicable Construction Standards

The electrical works shall comply with SANS 10142 and other related SANS electrical standards. Copies are available from https://www.sabs.co.za.

C3.2.1.2 Standard Specifications

The following standard specifications shall be read in conjunction with this specification and shall be deemed to form part thereof (these specifications are attached in the annexures):

Number	Description
SPE-EE-0001	General
SPE-EE-0002	Training, Testing and Commissioning
SPE-EE-0003	Drawings and Documentation
SPE-EE-0010	LV Switchgear & Controlgear Assemblies
SPE-EE-0011	LV cables
SPE-EE-0012	Cable Support Systems
SPE-II-0001	General Electronic Installations
SPE-II-0002	Programmable Logic Controllers
SPE-II-0003	Industrial Network Installation

C3.2.1.3 Particular Specifications

The following sections contain the particular specifications.

C3.2.1.4 Design

Labels shall be English.

C3.2.1.5 Spares

a) The Contractor shall submit together with the proposal a detailed price list of recommended spares and consumables required for the system.

b) The spares list shall indicate which spares are consumable spares, and which are strategic spares together with an expected annual consumption.

C3.2.1.6 Certificate of Compliance

a) All electrical installations shall be inspected on completion by an Installation Electrician (IE) and a Certificate of Compliance (CoC), as defined in SANS 10142, shall be issued to the Engineer.

b) The CoC shall cover the entire installation, even circuits operating at less than 50V.

C3.2.1.7 Low Voltage Cable

a) The Contractor shall supply and deliver low voltage cable compliant with SPE-EE-0011.

b) Low voltage cable shall be PVC insulated, PVC bedded and PVC sheathed (unarmoured).

c) Low voltage cable shall have reduced halogen emission and reduced flame propagation properties (blue stripe).

d) Low voltage cable shall be used for:

i) 400V AC distribution; and

ii) Distribution of 230V AC, 2A signals for the control of MCC circuits.

C3.2.1.8 Fieldbus Cable

The fieldbus cable shall comply with the protocol specifications.

C3.2.1.9 Cable Installation

The Contractor shall install cable in accordance with SPE-EE-0012.

C3.2.1.9.1 Cable Schedules

Not required.

C3.2.1.9.2 Marking and Strapping

a) Both ends of the cable shall be marked with the cable number in accordance with the schedule.

b) Each cable shall be individually identified.

c) Identification numbers shall be approximately 10 characters of 5mm text height punched on 316 stainless steel tape strapped with 4mm wide 316 stainless steel tape on both ends of the cable.

d) Cables installed on cable racking shall be held to the racking at intervals of no more than 300mm using cable ties/straps.

e) No more than three cables shall be permitted per individual cable tie/strap.

f) All cable ties/straps shall be 316 stainless steel bandit (4mm, 6mm, 8mm width).

g) The marking and strapping requirements shall be provided for as part of the cable installation rates.

C3.2.1.9.3 Making Good of Cable Entries into Buildings and Structures

a) The Contractor shall be responsible for making good all cable entries into buildings and cable ducts and substation trench entries to the satisfaction of the Engineer.

b) Making good of trench entries into buildings shall include but shall not be limited to the shuttering of the entry and filling of all the gaps with self-expanding foam to give a water tight seal.

c) No separate payment item will be provided for this. Contractors shall make allowance for this in their rates for substation building accessories.

C3.2.1.9.4 Cable Joints

No cable joints are allowed.

C3.2.1.9.5 Cable Routes

Cable routes shall be site run.

C3.2.1.10 Cable Ladder

a) Existing cable ladder shall be used, except for the section in the office where the new PLC cabinet must be connected to the cable rack route.

b) Cable supports in the office shall be galvanized steel.

C3.2.1.11 Switchboards and Motor Control Centres

The Contractor shall design, manufacture, supply, deliver and install a new MCC to replace the existing MCC as per specification SPE-EE-0010.

C3.2.1.11.1 General Requirements

a) All cables shall be glanded on the top of the MCC. Side glanding will also be accepted.

b) The main circuit breaker shall have an external rotary handle which shall be lockable for isolation procedures.

c) All heater and motor loads shall be protected and controlled by individual intelligent all-in-one motor starter-controllers. The all-in-one capability can be defined as a motor starter with:

   i) embedder microprocessor (intelligent) with communication capability;

   ii) thermal and magnetic protection;

   iii) switching and contactor in a single product; and

   iv) automation control module.

d) Each motor and heater control circuit shall have local/remote switching capability and stop/start buttons fitted on the cubicle's door, correctly labelled as per the Contractor's approved design.

e) All contactors shall be rated AC-3 duty and be fitted with auxiliary contacts and operate from 230V AC control voltage.

f) MCC's control circuit shall be 230V AC.

g) All panel doors shall be fitted with lockable padlocks for isolation.

C3.2.1.11.2 Aquarium MCC

a) The aquarium MCC shall comply with data sheet in Annexure 5.

b) The aquarium MCC shall be the exact same height as the existing MCC, however the length and depth can be determined by the Contractor, as long as the assembly fits in the space available and can enter the access doors.

c) The MCC shall be IP65 and powder coated B26 light orange as per SANS 1091:2012 to match the existing MCC's colour.

d) Protective breakers are to be suitably sized by the Contractor. Refer to addendum 1 for motor kW sizes.

e) All heater loads shall be protected by residual earth current protective breakers, suitably sized by the Contractor. Refer to addendum 2 for heater kW sizes.

C3.2.1.11.3 Control System Interface

a) The all-in-one starter controller shall send all available diagnostics information to the HMI, including but not limited the following information:

   i) Drive healthy

   ii) Remote/local mode selected

   iii) Run feedback

   iv) Trip diagnostics

b) The all-in-one starter controller shall receive the following signals/commands from the control system over the fieldbus network:

   i) Start

   ii) Stop

c) All motor protective breakers shall have auxiliary contacts and indicator lights (LED panel lights) to indicate the following statuses:

   i) Healthy

   ii) Running

   iii) Stopped

C3.2.1.11.4 Stop/Start Pushbutton Stations

Local (i.e. adjacent to the heater or pump) start/stop pushbutton stations are not required.

C3.2.1.11.5 Accessories

a) Each MCC room shall be equipped with the following accessories:

   i) One 4,5 kg FM200 (or equivalent) fire extinguisher, mounted adjacent to the MCC on a purpose-made bracket with the bottom end 800mm above floor level and a gloss-paint-finished plastic rectangle, 1,000mm high and 600mm wide mounted behind the fire extinguisher.

   ii) Statutory plastic DANGER signs and caution boards prohibiting access to unauthorised persons, fixed on the outside of MCC.

b) Neat plastic signs, adjacent to the MCC, bearing the following:

   i) A warning prohibiting unauthorised persons to tamper with equipment.

   ii) First aid instructions for persons shocked through contact with electrical equipment.

   iii) Fire-fighting directions.

C3.2.1.12 Programmable Logic Controllers (PLC)

a) The design, construction, supply, programming, configuration, testing, installation and commissioning of the PLC shall comply with SPE-II-0002.

b) The PLC and panel shall comply with the datasheet in Annexure 5.

c) The new PLC panel shall be a wall mounted panel installed at the same location (manager's office) of the current floor standing PLC panel.

d) Provision shall be made for sufficient ventilation in the PLC panel, to keep the temperature with equipment specifications.

e) An intelligent remote access and networking device, complete with integrated firewall, shall be provided and installed to allow for remote access to the control system.

C3.2.1.12.1 Control Philosophy

a) The control philosophy shall include but not be limited to:

   i) local and remote (HMI) control;

   ii) starting and stopping of pumps;

   iii) temperature control by switching heaters on and off;

   iv) heater over temperature protection;

   v) control of light circuits;

   vi) diagnostic features provided by motor control starters;

   vii) control system diagnostics and

   viii) communication

C3.2.1.12.2 I/O

a) The hard-wired I/O count for the new control system is as follows:

Digital in	Digital out	Analog in	Analog out
64	96	40	0

b) The I/O (as a minimum) to be communicated over the fieldbus to start and stop pump or switch heaters is as follows. The fieldbus I/O listed does include I/O for control system, network communication and motor starter diagnostics. These quantities shall be derived by the Contractor based on final hardware selection.

Digital in	Digital out	Analog in	Analog out
279	186	0	0

c) The HMI shall have the capability to trend all analog values, heater on/off status, pump running, failed to start and availability status, and other diagnostic data as required (approximately 200 signals) for at least 30 days, with a 60 second sampling rate.

C3.2.1.12.3 Signals

a) Analogue inputs shall be isolated analogue/RTD inputs.

b) All control circuits are to be 24V DC unless otherwise specified.

C3.2.1.12.4 Surge Protection

The power supply to PLC cabinet shall be protected by means of a suitable surge suppressor to afford protection against surges of the pulse shape 8/20 µs with a nominal discharge current of 5kA between phase and neutral and 10kA between neutral and earth.

C3.2.1.12.5 Engineering Workstation

Not required.

C3.2.1.12.6 Factory Acceptance Inspection

a) The Contractor shall make provision to host a factory acceptance test (FAT) during which the functionality of the control system shall be tested.

b) The Contractor shall prepare a test plan describing how the FAT will be conducted. The test plan will be provided to the Engineer at least two weeks prior to the planned FAT to review.

c) The FAT shall include demonstration of the navigation, display overviews, pop-ups, alarming, trending, security measures, start-up and all the reports.

d) The FAT phases shall include:

i) Proof of concept, where an instance of each module is demonstrated.

ii) Layout and navigation, prior to animating all the symbols.

iii) Functional tests, during which the entire functionality of the HMI system will be tested.

C3.2.1.13 Human Machine Interface

a) The HMIs shall comply with data sheet in Annexure 5.

b) The HMI design and implementation shall comply with ISA-101.01-2015, Human Machine Interfaces for Process Automation Systems.

C3.2.1.14 UPS

a) A UPS shall be installed in the PLC cabinet with sufficient capacity to power all equipment in the PLC panel and have a backup time of at least 30 minutes.

b) The UPS and batteries shall be mounted in the PLC cabinet, preferably in a dedicated compartment to mitigate the effects of UPS noise on the communication network.

C3.2.1.15 Software Back-ups

a) The Contractor shall offer a back-up solution on portable media.

b) External solid-state drives are preferred.

c) The Contractor shall supply the back-up to the client on completion of the project and any change thereafter during the maintenance and support contract.

d) The back-up solution offered shall enable back-ups to be created of:

i) PLC software configuration.

ii) HMI software configuration.

iii) Design documentation.

C3.2.1.16 Instrumentation

a) The temperature transmitters complete with probes shall comply with data sheet in Annexure 5.

b) Supply and install 20 new temperature probes (PT 100 0-50ºC, 4-20mA, 500mm long prober) with PVC heads (stainless steel probes and stainless-steel process connections) to replace the existing probes on the various exhibits.

C3.2.1.17 Earthing

Existing earthing shall be used.

C3.2.1.18 Training

a) The Contractor shall train the Employer's staff to be proficient in:

i) Control system architecture

ii) HMI navigation

iii) HMI alarming and diagnostics

iv) Review and trending of historical data

v) Fault finding

vi) Maintenance

C3.2.1.19 Certification by Recognised Bodies

a) Certified by the CIDB

b) The PLC, HMI and instrumentation shall carry the CE mark

C3.2.2 Plant and Materials

C3.2.2.1 Plant and Materials Supplied by the Employer

None.

C3.2.2.2 Materials, Samples and Shop Drawings

None.

C3.2.3 Construction Equipment

C3.2.3.1 Requirements for Equipment

None.

C3.2.3.2 Equipment Provided by the Employer

None.

C3.2.4 Existing Services

C3.2.4.1 Known Services

As per existing, to be clarified by Contractor during site inspections and audits.

C3.2.4.2 Treatment of Existing Services

None.

C3.2.4.3 Use of Detection Equipment for the Location of Underground Services

None.

C3.2.4.4 Damage to Services

It is the responsibility of the Contractor to ensure that no services are damaged during the construction process. In case the known services indicated on the drawings are damaged, the main Contractor shall be responsible for the repair of the services to the original state before it was damaged, as well as all cost associated with the damaged service.

C3.2.5 Site Establishment

C3.2.5.1 Services and Facilities Provided by the Employer

None.

C3.2.5.2 Storage and Laboratory Facilities

No requirements are specified.

C3.2.5.3 Other Facilities and Services

No requirements are specified.

C3.2.5.4 Vehicles and Equipment

No requirements are specified.

C3.2.5.5 Advertising Rights

No suppliers may advertise on site. Any advertisement from suppliers shall be removed at their own cost.

C3.2.5.6 Notice Boards

The main Contractor is allowed to place a notice board on site. The maximum allowed size of this board should be 2m by 3m.

C3.2.6 Site Usage

The Contractors are not allowed to work outside the allowed working hours, as agreed with the Employer. The disturbance to the premises should be kept at a minimum.

C3.2.7 Permits and Way Leaves

No requirements are specified.

C3.2.8 Water for Construction Purposes

Not applicable.

C3.3 Annexures

C3.3.1 Annexure 1: Pump kW Rating at 400V AC

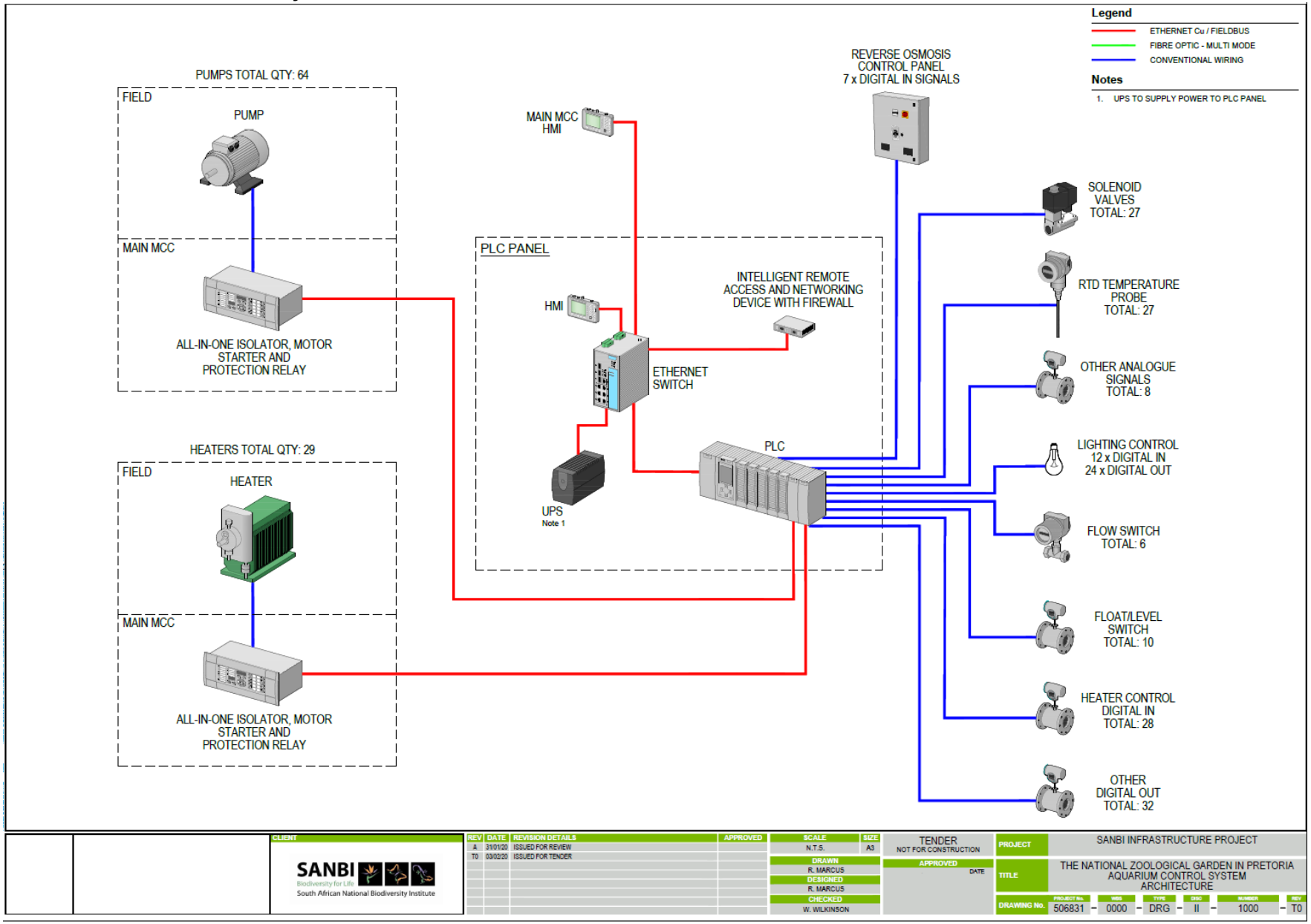
NO	PUMP NUMBER	SIZE
1	GT	1.1 kW
2	Tank 1-2	1.1 kW
3	Tank 3	1.1 kW
4	Tank 4-5	1.1 kW
5	Tank 6-7	1.1 kW
6	Tank 8	1.1 kW
7	Tank 9-10	1.1 kW
8	Tank 11-12	1.1 kW
9	Tank 13-14	1.1 kW
10	Tank 15-16	1.1 kW
11	Tank 17-18	1.1 kW
12	Tank 19-20	1.1 kW
13	Tank 21-23	1.5 kW
14	Tank 24-25	1.5 kW
15	Tank 26-30	1.1 kW
16	Tank 31-32	1.5 kW
17	Tank 33-34	1.1 kW
18	Tank 35-36	1.1 kW
19	Tank 37	1.1 kW
20	RT1	1.5 kW
21	RT2	1.5 kW
22	D1	2.2 kW
23	D2 Motor1	2.2 kW
24	D2 Motor2	2.2 kW
25	MB1	1.1 kW
26	MB2	1.5 kW
27	MB3	1.1 kW
28	MB4	1.1 kW
29	MB5	1.5 kW
30	B1	1.1 kW
31	B2	1.1 kW
32	B3	1.1 kW
33	B4	1.1 kW
34	B5	1.1 kW
35	TB1	1.1 kW
36	TB2	1.1 kW
37	TB3	1.1 kW
38	Salt mix tank	1.1 kW
39	Salt holding tank	1.1 kW

NO	PUMP NUMBER	SIZE
40	BR1	2.2 kW
41	BR2	2.2 kW
42	OR1	2.2 kW
43	OR2	2.2 kW
44	RT1	1.1 kW
45	No2	1.1 kW
46	AD1	0.75 kW
47	AD2	0.75 kW
48	AD3	0.75 kW
49	Sump1	0.45 kW
50	Sump2	0.45 kW
51	Sump3	0.45 kW
52	ROP1	0.45 kW
53	ROP2	0.45 kW
54	ROP3	2.2 kW
55	CW1	2.2 kW
56	CW2	2.2 kW
57	AP1	4 kW
58	AP2	4 kW
59	AP3	4 kW
61	VF1	0.55 kW
62	Gen1	0.55 kW
63	JT1	0.45 kW
64	CJ1	2.6 kW

C3.3.2 Annexure 2: Heater kW Rating at 400V AC

NO	HEATER NUMBER	SIZE
1	Tank 1-2	2.2 kW
2	Tank 3	1.1 kW
3	Tank 4-5	0.75 kW
4	Tank 6-7	0.75 kW
5	Tank 8	0.75 kW
6	Tank 9-10	0.75 kW
7	Tank 11-12	0.75 kW
8	Tank 13-14	0.75 kW
9	Tank 21-23	1.1 kW
10	Tank 24-25	1.1 kW
11	Tank 26-30	1.1 kW
12	Tank 31-32	1.1 kW
13	Tank 33-34	1.1 kW
14	Tank 35-36	1.1 kW
15	RT1	1.1 kW
16	RT2	1.1 kW
17	B1	0.75 kW
18	B2	0.75 kW
19	B3	0.75 kW
20	B4	0.75 kW
21	D1	2.2 kW
22	D2	2.2 kW
23	MB1	0.75 kW
24	MB2	0.75 kW
25	MB3	0.75 kW
26	MB4	1.1 kW
27	MB5	1.1 kW
28	TB1	0.75 kW
29	TB2	0.75 kW

C3.3.3 Annexure 3: Control System Architecture



C3.3.4 Annexure 4: Control and Instrumentation Datasheets

CONTROL AND INSTRUMENTATION DATASHEETS

	DESCRIPTION	UNIT	SPECIFIED	OFFERED
1	**FIELDBUS CABLE**			
1.1	Manufacturer			
1.2	Size	*mm^2*		
1.3	Operating Voltage	*V*		
1.4	Number of Cores	*No*		
1.5	Size	*mm^2*		
1.6	Conductor Type	*Cu/Al*		
1.7	Cable Type			
1.8	Full Load Current	*A*		
1.9	Armouring	*Yes/No*	No	
1.9	Protocol			
1.10	**Datasheet included with tender**	***Yes / No***	**Yes**	
2	**PLC PANEL**			
2.1	Enclosure Material		Powder coated mild steel	
2.2	Enclosure Colour		Siemens Grey	
2.3	Enclosure Rating	*IP*	42	
2.4	Enclosure Mounting	*Wall / Floor*	Wall mounted	
2.5	Supply and Control Circuit Voltages	*V*	24V DC	
2.6	Wire Colours			
2.7	Glass door - viewing panel	*Yes / No*	No	
2.8	Termination			
2.9	Glanding			
2.10	Power Supply Unit vendor preferences			
2.11	Uninterruptible Power Supply requirement	*Yes / No*	Yes	
2.12	Panel light required	*Yes / No*	Yes, LED	
2.13	Socket outlet required	*Yes / No*	No	
2.14	Physical Spare space	*%*	25	
2.15	**Datasheet included with tender**	***Yes / No***	**Yes**	

Any reference to words “Bid” or Bidder” herein and/or in any other documentation shall be construed to have the same meaning as the words “Tender” or “Tenderer”.

3	**ETHERNET SWITCH**			
3.1	Manufacturer			
3.2	Type			
3.3	Model			
3.4	Ports	*No.*		
3.5	Fibre ports (SFP/GBICs)	*No.*	0	
3.6	Rack mounted	*Yes/No*	Yes	
3.7	Power Supply	*VAC / VDC*		
3.8	Speed	*Mbit*	1000	
3.9	PoE	*Yes/No*	No	
3.10	**Datasheet included with tender**	***Yes / No***	**Yes**	
4	**INTELLIGENT REMOTE ACCESS DEVICE**			
4.1	Manufacturer			
4.2	Model			
4.3	LAN Ports	*No.*	3	
4.4	WAN Ports	*No.*	1	
4.5	Licence Keys	*No.*	3	
4.6	Support concurrent VPN connections	*Yes/No*	Yes, Up to 50	
4.7	Support all Internet connections (operator independent)	*Yes/No*	Yes	
4.8	Support dynamic, static and private IP addresses	*Yes/No*	Yes	
4.9	Built-In Firewall	*Yes/No*	Yes, NAT	
4.10	Power Supply Adapter Input	*VAC / VDC*		
4.11	VPN throughput Speed	*Mb/s*	Up to 15Mb/s	
4.12	PoE	*Yes/No*	No	
4.13	**Datasheet included with tender**	***Yes / No***	**Yes**	
5	**PROGRAMMABLE LOGIC CONTROLLERS**	-		-
5.1	Manufacturer			
5.2	Model			
5.3	CPU			
5.4	CPU configuration			
5.5	Digital Inputs	No.		
5.6	Digital Outputs	No.		
5.7	Analogue Inputs	No.		
5.8	Analogue Outputs	No.		

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5.9	Spare I/O	%	25%	
5.10	Ports			
5.11	Ethernet	No.		
5.12	Serial	No.		
5.13	Other	No.		
5.14	Software			
5.15	All engineering software included with PLC	*Yes / No*	Yes	
5.16	Annual Software License renewal required	*Yes / No*	No	
5.17	Programming Language		IEC 61131	
5.18	**Datasheets included with tender**	***Yes / No***	**Yes**	
6	**HUMAN MACHINE INTERFACE (HMI)**			
6.1	Manufacturer			
6.2	Model			
6.3	Screen Size	*Inches*	19"	
6.4	Screen Type		Colour TFT	
6.5	Resolution	*Pixels*	1280 x 1024 SXGA 18-bit colour graphics	
6.6	Touch Screen	*Yes / No*	Yes	
6.7	Type of Touch Screen	*Capacitive/ Resistive*	Analog resistive Actuation rating: 1 million presses Operating force: 100 grams	
6.8	Memory: System RAM	*MB RAM*	At least 512, subject to application	
6.9	Memory: System Storage	*MB RAM*	At least 512, subject to application	
6.10	Memory: User	*MB RAM*	At least 80, subject to application	
6.11	SD Card Slot	*Yes / No*	Yes	
6.12	USB Slot Host	*Yes / No*	Yes (2 x 2.0)	
6.13	USB Slot Device	*Yes / No*	Yes (1 x 2.0)	
6.14	Operating system		Windows CE with Extended Features and MS Office Viewers	

Any reference to words “Bid” or Bidder” herein and/or in any other documentation shall be construed to have the same meaning as the words “Tender” or “Tenderer”.

6.15	Position of Installation	*Inside Panel / Flush Fronted / Front Access*	Flush Fronted	
6.16	**Datasheets included with tender**	***Yes / No***	**Yes**	
7	**UPS**			
7.1	Manufacturer			
7.1	Model			
7.1	Place of manufacture			
7.1	Type			
7.1	Power	W	Load + 30%	
7.1	Backup Time	min	30	
7.1	Output Voltage	V	230V +-5%	
7.1	Nominal Frequency	Hz	50	
7.1	Output Waveform		Pure sine wave	
7.1	Number of Phases	1 or 3	1	
7.1	Communication		Ethernet	
7.1	Battery Life	Years	Min 10.	
7.1	Battery Type		Sealed, maintenance free, lead acid contained in UPS	
7.1	Battery Charger			
7.1	**Datasheets included with tender**	***Yes / No***	**Yes**	
8	**TEMPERATURE PROBE (PT100)**			
8.1	Manufacturer			
8.2	Sensor Model			
8.3	Transmitter Model			
8.4	Detection Range	Degrees °C		
8.6	Process Connection			
8.10	**Additional datasheet from manufacturer included with tender**	***Yes / No***	**Yes**	

Any reference to words “Bid” or Bidder” herein and/or in any other documentation shall be construed to have the same meaning as the words “Tender” or “Tenderer”.

C3.3.5 Annexure 5: MCC Datasheets

TECHNICAL DATA SHEET SWITCHBOARDS AND MOTOR CONTROL CENTRE				
No	**Description**	**Reference clause (IEC/ SANS 61439 Parts 1 and 2)**	**Specified**	**Offered**
1	**GENERAL**			
1.1	Assembly reference designation (tag)		Aquarium MCC	
1.2	Description			
1.3	Manufacturer			
1.4	Model			
1.5	**Type test certificate to IEC/ SANS 61439**			
	a) Number/authority			
	b) Date			
	c) Copy attached		Yes	
1.6	Measuring instrumentation compliant to IEC 60051		Yes	
1.7	Quality Management System		ISO 9001 or eq.	
1.8	Assembly arc tested in accordance with IEC/ SANS 61641		No	
2	**ELECTRICAL SYSTEM**			
2.1	Earthing system	*5.5, 8.4.3.2.3, 8.6.2, 10.5, 11.4*	TNS	
2.2	Rated voltage U_n (Volts)	*3.8.8.1, 5.2.1, 8.5.3*	400/230 ± 10% 3/N/PE	
2.3	Control voltage (Volts)		230 VAC ± 10% 1/N/PE	
2.4	Overvoltage category	*5.2.4, 8.5.3, 9.1, Annex G*	Category III	
2.5	Unusual voltage transients, voltage stresses, temporary overvoltages	*9.1*	Provide type II surge protection	
2.6	Rated frequency f_n (Hz)	*3.8.11, 5.4, 8.5.3, 10.10.2.3, 10.11.5.4*	50 Hz ± 2%	
2.7	Additional on-site testing requirements: wiring, operational performance and function	*11.1*	Functional testing of units	
3	**SHORT CIRCUIT WITHSTAND CAPABILITY**			
3.1	Prospective short circuit current at supply terminals I_{cp} (kA)	*3.8.6*	15 kA	

Any reference to words “Bid” or Bidder” herein and/or in any other documentation shall be construed to have the same meaning as the words “Tender” or “Tenderer”.

3.2	Prospective short circuit current in the neutral	*10.11.5.3.5*	60 % of phase values	
3.3	Prospective short circuit current in the protective circuit	*10.11.5.6*	60 % of phase values	
3.4	**Ratings of the short-circuit protective device in the incoming functional unit**	*9.3.2*		
	a) rated short-time withstand current I_{cw}	*5.3.5*	> I_{cp} for 1 s	
	b) rated peak withstand current I_{pk}	*5.3.4*	> I_{cp}	
	c) rated conditional short-circuit current I_{cc}	*5.3.6*	> I_{cp}	
3.5	Co-ordination of short-circuit protective devices including external short-circuit protective device details	*9.3.4*	No	
4	**INSTALLATION ENVIRONMENT**			
4.1	Location type	*3.5, 8.1.4, 8.2*	Indoor	
4.2	Protection against ingress of solid foreign bodies and ingress of liquid	*8.2.2, 8.2.3*	Indoor: IP65	
4.3	Resistance to UV radiation (applies for outdoor assemblies only unless specified otherwise)	*10.2.4*	Standard	
4.4	Resistance to corrosion	*10.2.2*	Indoor: Severity test A	
4.5	Assembly material of construction		Powder coated mild steel	
4.6	Minimum thickness of assembly material of construction (mm)		2 mm	
4.7	Exterior paint colour		B26 as per SANS 1091	
4.8	Interior paint colour		B26 as per SANS 1091, with white equipment chassis plate	
4.9	Ambient air temperature – lower limit	*7.1.1*	Indoor: –5°C	
			Outdoor: –25°C	
4.10	Ambient air temperature – upper limit	*7.1.1*	40°C	
4.11	Ambient air temperature – daily average maximum	*7.1.1*	35°C	
4.12	Maximum relative humidity	*7.1.2*	Indoor: 50 % @ 40°C	
			Outdoor: 100 % @ 25°C	
4.13	Maximum internal air temperature rise above ambient air temperature		15°C	
4.14	Pollution degree	*7.1.3*	Industrial: 3	
4.15	Altitude	*7.1.4*	≤ 2000 m	
4.16	EMC environment	*9.4, 10.12, Annex J*	Environment A	
4.17	Special service conditions (e.g. vibration, exceptional condensation, heavy pollution, corrosive environment, strong electric or magnetic fields, fungus, small creatures, explosion hazards, heavy vibration and shocks, earthquakes)	*7.2, 8.5.4, 9.3.3 Table 7*	Ambient temperature < 40°C, Coastal application	
5	**INSTALLATION METHOD**			

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5.1	Type	*3.3, 5.5*	Multi-cubicle	
			Fixed	
5.2	Portability	*3.5*	Stationary	
5.3	Maximum overall dimensions (mm)	*6.2.1*	As per existing MCC	
5.4	Maximum weight (kg)		By supplier	
5.5	External conductor type(s)	*8.8*	As per existing installation	
5.6	Direction(s) of external conductors	*8.8*	Top entry	
5.7	External conductor material	*8.8*	Copper	
5.8	External phase conductor, cross sections, and terminations	*8.8*	As per existing installation	
5.9	External PE, N, PEN conductors cross sections, and terminations	*8.8*	As per existing installation	
5.10	Special terminal identification requirements	*8.8*	N/A	
6	**STORAGE AND HANDLING**			
6.1	Maximum dimensions and weight of transport units	*6.2.2, 10.2.5*	As determined by existing building access	
6.2	Methods of transport (e.g. forklift, crane)	*6.2.2, 8.1.7*	Lifting lugs	
6.3	Environmental conditions different from the service conditions	*7.3*	No	
6.4	Packing details	*6.2.2*	Suitable for long distance trans-portation and storage for at least 12 months.	
7	**MAINTENANCE AND UPGRADE CAPABILITIES**			
7.1	Access		Floor standing, front access	
7.2	Requirements related to accessibility for inspection and similar operations	*8.4.5.2.2*	N/A	
7.3	Requirements related to accessibility for maintenance in service by authorized persons	*8.4.5.2.3*	Rear access with removable (bolted) access	
7.4	Method of functional units connection	*8.5.1, 8.5.2*	Fixed connections	
	Note: This refers to the capability of removal and reinsertion of functional units.			
7.5	Protection against direct contact with hazardous live internal parts during maintenance or upgrade (e.g. functional units, main busbars, distribution busbars)	*8.4*	No	
7.6	Form of separation	*8.101*	Form 2b	
7.7	Capability to test individual operation of the auxiliary circuits relating to specified circuits while the functional unit is isolated	*3.1.102, 3.2.102, 3.2.103, 8.5.101, Table 103*	No	

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8	**CURRENT CARRYING CAPABILITY**			
8.1	Rated current of the assembly I_{nA} (A)	*3.8.9.1, 5.3, 8.4.3.2.3, 8.5.3, 8.8, 10.10.2, 10.10.3, 10.11.5, Annex E*	125A	
8.2	Rated current of circuits I_{nc} (A)	*5.3.2*	Refer to load list	
8.3	Rated diversity factor	*5.3.3, 10.10.2.3, Annex E*	0.8	
8.4	Ratio of cross section of the neutral conductor to phase conductors: phase conductors up to and including 16 mm²	*8.6.1*	1	
	Note: Current in the neutral may be influenced where there are significant harmonics, unbalanced phase currents, or other conditions in the load that will necessitate a larger conductor.			
8.5	Ratio of cross section of the neutral conductor to phase conductors: phase conductors above 16 mm²	*8.6.1*	50 % (min. 16 mm²)	
	Note: For the standard value, the neutral current is assumed not to exceed 50% of the phase currents. Current in the neutral may be influenced where there are significant harmonics, unbalanced phase currents, or other conditions in the load that will necessitate a larger conductor.			
9	**CONSTRUCTION**			
9.1	Wiring compliant to IEC/ SANS 1057-2		Yes	
9.2	**Minimum wiring conductor cross-sectional area**			
	a) 230 VAC control wiring		2,5 mm²	
	b) 24 VDC control wiring		1,5 mm²	
9.3	Fasteners compliant to IEC/ SANS 1355-3		Yes	
10	**ELECTRICAL EQUIPMENT**			
10.1	**Busbars**			
	a) Material		Copper	
	b) Maximum current density (A/mm²)		1.3 A/mm²	
	c) Dimensions (mm)			
	d) Auxiliary busbars		One set (live and neutral)	
10.2	**Air circuit breakers**		N/A	-
	a) Manufacturer		N/A	-
	b) Model		N/A	-
	c) Type test certificate		Attached	-
	d) Compliant to IEC/ SANS 60947-2		Yes	-

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10.3	**Moulded case circuit breakers**			
	a) Manufacturer			
	b) Model			
	c) Compliant to IEC/ SANS 60947-2		Yes	
	d) Quick break under overload or short circuit conditions		Yes	
	e) Temperature rise under full load conditions as per specification		Yes	
10.4	**Combination fuse switches**			
	a) Manufacturer			
	b) Model			
	c) Compliant to IEC/ SANS 60947-3		Yes	
	d) Independent manual operation		Yes	
	e) IP Rating as per IEC/ SANS 60529		IP21	
10.5	**Switch operators**			
	a) Manufacturer			
	b) Model			
	c) Pad lockable to “off” position		Yes	
10.6	**HRC fuse links**			
	a) Manufacturer			
	b) Model			
	c) Compliant to IEC/ SANS 60269		Yes	
10.7	**Contactors**			
	a) Manufacturer			
	b) Model			
	c) Compliant to IEC/ SANS 60947-4		Yes	
10.8	**Auxiliary relays**			
	a) Manufacturer			
	b) Model			
	c) Field convertible contact configuration		Yes	
	d) Compliant to IEC/ SANS 60947-5-1		Yes	
10.9	**Current transformers**			
	a) Manufacturer			
	b) Model			
	c) Compliant to IEC/ SANS 60044-1		Yes	
	d) Test blocks for Ammeter CTs		Yes	
10.10	**Voltage transformers**			
	a) Manufacturer			
	b) Model			
	c) Compliant to IEC/ SANS 60044-2		Yes	
10.11	**Pushbuttons and selector switches**			
	a) Manufacturer			
	b) Model			
	c) Contact Rating		10 A, 230 V AC	

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10.12	**Indicator lamps**			
	a) Manufacturer			
	b) Model			
	c) Type		LED	
	d) Voltage rating		230 VAC +/- 10%	
10.13	**Control circuit and auxiliary transformer**			
	a) Manufacturer			
	b) Model			
	c) Type			
	d) In accordance with specification		Yes	
10.14	**Surge Protection Devices**			
	a) Manufacturer			
	b) Model			
	c) Compliant to IEC 61643		Yes	
10.15	**Electric Arc Detection System**			
	a) Manufacturer		N/A	
	b) Model		N/A	
	c) Safety Integrity Level (SIL) in accordance with IEC 61508		N/A	
	Deviations from specification: List all the deviations from the specification (If no deviations are listed it confirms that the equipment offered complies fully with all aspects of the specification.)			

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C3.3.6 Annexure 6: Document / Deliverable List

	Document Description	Proposal	For approval		As-built	Notes
		No. of prints	Weeks after PO	No. of prints	No. of prints	
	Documents for General Purpose					
1	Filled in datasheets	1	-	-	3	3, 4
2	Equipment catalogues	1	-	-	3	3, 4
3	Deviation / alternative / clarification list (within proposal)	1	-	-	-	-
4	High level project schedule	1	-	-	-	-
	Documents for control system design					
5	General arrangement drawing	-	4	2	3	3, 4
6	Control system architecture	-	2	2	3	3, 4
7	Cable block diagrams	-	4	2	3	3, 4
8	Termination diagrams	-	4	2	3	3, 4
9	Control Philosophy	-	2	2	3	3, 4
10	Function Design Specification	-	4	2	3	3, 4
11	I/O List	-	4	2	3	3, 4
	Documents for MCC and electrical system design					
10	General Arrangement Layout	-	4	2	3	3, 4
11	Single Line Diagram	-	4	2	3	3, 4
12	Schematic diagrams	-	4	2	3	3, 4
13	MCC change over action plan	-	4	2	-	-
	Documents for Expediting, Inspection and Testing					
14	Detail project schedule	-	1	2	-	-
15	Progress reports	-	2	2	-	1
16	QA/QC plan	-	4	2	3	2, 3, 4
17	Test & inspection procedure	-	4	2	-	2
18	Test & inspection report	-	-	-	3	3, 4
	Documents for Installation, Operation and Maintenance					
19	Operating instructions / manual	-	2	2	3	3, 4
20	Maintenance instructions	-	2	2	3	3, 4
21	Consumable spares	1	-	2	3	3, 4
22	Strategic spares	1	-	2	3	3, 4
23	Equipment failure recovery plan	-	8	2	3	3, 4

Notes:

1) To be issued every two weeks during the duration of the project.

Any reference to words “Bid” or Bidder” herein and/or in any other documentation shall be construed to have the same meaning as the words “Tender” or “Tenderer”.

2) To be present at inspection.
3) Final documents shall, apart from hard copies, be delivered in electronic format (PDF-format) on CD.
4) Document is part of Manufacturing Data Book.

Any reference to words “Bid” or Bidder” herein and/or in any other documentation shall be construed to have the same meaning as the words “Tender” or “Tenderer”.

C3.3.7 Annexure 7: Engineering Specification SPE-EE-0001 – General

Any reference to words “Bid” or Bidder” herein and/or in any other documentation shall be construed to have the same meaning as the words “Tender” or “Tenderer”.

C3.3.8 Annexure 8: Engineering Specification SPE-EE-0002 - Training, Testing and Commissioning

Any reference to words “Bid” or Bidder” herein and/or in any other documentation shall be construed to have the same meaning as the words “Tender” or “Tenderer”.

C3.3.9 Annexure 9: Engineering Specification SPE-EE-0003 - Drawings and Documentation

Any reference to words “Bid” or Bidder” herein and/or in any other documentation shall be construed to have the same meaning as the words “Tender” or “Tenderer”.

C3.3.10 Annexure 10: Engineering Specification SPE-EE-0010 - LV Switchgear & Controlgear Assemblies

Any reference to words “Bid” or Bidder” herein and/or in any other documentation shall be construed to have the same meaning as the words “Tender” or “Tenderer”.

C3.3.11 Annexure 11: Engineering Specification SPE-EE-0011 - LV cables

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C3.3.12 Annexure 12: Engineering Specification SPE-EE-0012 - Cable Support Systems

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C3.3.13 Annexure 13: Engineering Specification SPE-II-0001 - General Electronic Installations

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C3.3.14 Annexure 14: Engineering Specification SPE-II-0002 - Programmable Logic Controllers

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C3.3.15 Annexure 15: Engineering Specification SPE-II-0003 - Industrial Network Installation

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C4. Site Information

C4.1 HEALTH AND SAFETY

All Contractors entering into a Contract with the South African National Biodiversity Institute shall, as a minimum, comply with the requirements of:

- The Occupational Health & Safety Act (OHSA) (Act No. 85 of 1993) and its Regulations. A current, up-to-date copy of the Occupational Health and Safety Act as well as Health and Safety file for the company shall be available on site at all times. The Health and Safety file will become SANBI property at the end of the contract. Within seven days of appointment, the Contractor will be required to submit a Health and Safety file for approval by the Employers H&S Manager. Initiation of the works can only proceed once approval has been granted
- Compensation for Occupational Injuries & Diseases Act (Act No. 130 of 1996). The principal Contractor will be required to submit a letter of good standing from the office of the Compensation Commissioner as required by the Compensation for Occupational Injuries and Diseases Act as part of the submission. The letter should be issued by the Department of Labour or licensed compensation insurer. A current, up-to-date copy of the Compensation for Occupational Injury and Diseases Act (COIDA) shall be available on site at all times.
- National Environmental Management Act (Act No.107 of 1998).
- The South African National Biodiversity Institute Health and Safety Specification and relevant policies.
- COVID-19 regulations and guidelines as published by the National Department of Health and the National Institute for Communicable Diseases.

The Contractor shall:

a. Create and maintain a safe and healthy work environment
b. Execute the works in a manner that complies with all the requirements of the OHSA and all its associated Regulations, and in so doing, minimize the risk of incidents occurring
c. Respond to the notices issued by SANBI's Health and Safety Agent as follows:
    i. Improvement Notice: improve health and safety performance over time so that repeat notices are not issued
    ii. Contravention Notice: rectify contravention as soon as possible
    iii. Prohibition Notice: terminate affected activities with immediate effect and only resume activities when it is safe to do so.

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SANBI
Biodiversity for Life
South African National Biodiversity Institute

CONSTRUCTION BASELINE RISK ASSESSMENT

Introduction and Overview

1. There is an implied legal requirement under the Health and Safety Act N0.85 of 1993 Section 8(2) for an employer to carry out risk assessments.
2. Risk Assessments are important to the management of health and safety within SANBI. The process is a tool for management to identify those risks that pose a threat to the health and safety of employees, visitors, contractors and all other people who are affected by our work activities.
3. An assessment of risk is nothing more than a careful examination of anything at work that may cause harm to people. This is known as identifying significant hazards that might cause harm or illness to anyone including the general public. The Risk Assessment is not restricted to possible physical harm but includes work related occupational health issues such as stress.
4. These issues need to be evaluated to decide whether existing precautions are adequate, or if more needs to be done or even whether the activity should be modified or not undertaken at all. Any specific job recommendation must be followed.
5. Area SHE reps must be consulted to provide any advice required on the process of risk assessment but it primarily should be undertaken by those with specific expertise in that area of activity.
6. Principal contractor must appoint competent person to do activities risk assessment.

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	Construction baseline Risk Assessment		**Centre Name: ALL**

STEP 1.					
Operation Name:	CONSTRUCTION	DATE:	02/01/2020	**Compartment No.**	
Activity / Task Description:	INSTALLATION IN CONSTRUCTIONS				

Ref No.	**SPECIFIC TASK / ACTIVITY STEPS**	**IDENTIFIED POTENTIAL HAZARDS**	**RISK**	**CLASS**	**RISK RANKING**			**RISK CONTROL MEASURES** -Elimination -Administration -Engineering -Personal Protection Equipment(PPE) -Written safe work procedure (WSWP)	**RESIDUAL RISK**		
				S **H** **E**	**Likelihood**	**Consequence**	**Risk Rating**		**Likelihood**	**Consequence**	**Residual Risk**
1.	**Site establishment**	Mobile plant and equipment	-Crushing injuries -Hearing impairment due to noise -Dust and fumes inhalation -Muscle strain due to vibration -Trips and falls -Pollution	**S H**	**4**	**5**	**20**	**-Use of competent person -WSWP -Equipment Safety guards**	**3**	**3**	**9**
2.	**Construction**	Working at heights	Falls from heights, potential for fatality or serious injury Collapse of structure – falls, crushing	**S**	**4**	**5**	**20**	**-Training and daily risk assessment WSWP PPE**	**3**	**3**	**9**
		Mobile plant including mobile platform.	Falls from heights, potential for fatality or serious injury Manual handling injuries when erecting platform	**S**	**4**	**5**	**20**	**WSWP -Enforcement of use of PPE**	**3**	**3**	**9**
		Powered tools and non-powered tools including brick saw, rotating saw, angle grinder, electric mixer	Contact with electricity ,Amputation or laceration, Eye or face injury Musculoskeletal disorders caused by equipment vibration	**S**	**4**	**5**	**20**	**WSWP PPE**	**3**	**3**	**9**

		Unlevelled terrain and construction debris	Falls, Cuts and struck injuries	**S**	**4**	**4**	**16**	**WSWP PPE**	**2**	**3**	**6**
		Cement products and mortar	Dermatitis, Allergic reactions, Vapour inhalation and Mortar splashes in eyes	**S,H**	**4**	**4**	**16**	**WSWP PPE**	**2**	**3**	**6**
		Manual handling (bending, reaching, stretching, pulling, lifting, repetitive motions, awkward posture)	Musculoskeletal disorders including sprains and strains	**H**	**4**	**5**	**20**	**WSWP**	**3**	**3**	**9**
		Noise	Long-term exposure to excessive noise can lead to hearing loss	**H**	**4**	**4**	**16**	**PPE WSWP**	**2**	**3**	**6**
		Overhead obstructions, electrical cable conduits	Accidental contact with electrical cable could result in electric shock or electrocution	**S,H**	**4**	**5**	**20**	**PPE WSWP**	**2**	**3**	**6**
		Hot weather conditions	Heat rashes, heat cramps, heat stress, dehydration, sunburn	**H**	**4**	**4**	**16**	**PPE WSWP**	**2**	**3**	**6**
		Electricity	Electrocution	**S**	**3**	**5**	**15**	**Enforcement of lock-out procedure WSWP**	**2**	**2**	**4**
		Fire	**Property damage**	**S E**	**3**	**4**	**12**	**-Enforcement of hot work permit -Proper house keeping**	**2**	**2**	**4**
		Oil Spill	**Environmental risk**	**E**	**3**	**4**	**12**	**-WSWP -Keep tools in proper working conditions**	**2**	**2**	**4**

Residual Risk	APPROVAL REQUIRED TO PROCEED	Approval Signature	Approval Date:
Extreme (E)	Stop Activity and seek approval from the Centre manager/immediate manager		
High (H)	Approval must be obtained from immediate manager/Responsible Supervisor and when all control measures are in place.		
Moderate (M)	Work can commence after supervisors' approval and all control measures are in place		
Low (L)	Work can commence when the supervisor/SHE rep has approved this risk assessment, & all identified control measures are in place.		

**** Discretion for Centre/immediate manager to approve Extreme / High risk work to proceed only applies where there is a risk to production loss/plant. This discretion does not apply to work if the Ext/High residual risk relates to the potential for personal injury or environment risk. In this case work should stop and seek professional safety advice.***

Step 12.

By signing below, participants acknowledge they have read and understand the risk assessment and agree to comply with all steps and control measures:

NAME	SIGN ON	DATE	SIGN OFF	DATE	NAME	SIGN ON	DATE	SIGN OFF	DATE

RISK CALCULATOR (Risk Rating = Consequences x Likelihood)

LIKELIHOOD	CONSEQUENCE				
	Insignificant (1)	Minor (2)	Moderate (3)	Major (4)	Catastrophic (5)
Almost Certain (5)	M (11)	H (13)	E (20)	E (23)	E (25)
Likely (4)	M (7)	H (12)	H (17)	E (21)	E (24)
Possible (3)	L (4)	M (8)	H 16)	E (18)	E (22)
Unlikely (2)	L (2)	L (5)	M (9)	H (15)	E (19)
Rare (1)	L (1)	L (3)	M (6)	M (10)	H (14)

STEP	QUICK GUIDE OF WHAT TO DO	MORE DETAILED INFORMATION ON EACH PROJECT/TASK RISK ASSESSMENT STEP
1.	Complete a description of the Activity / Task	▪ At the top of the risk assessment record the task name, a brief description of the task, and the relevant work area and section. Keep as simple as possible, but with enough information to identify the task. ▪ If the Risk Assessment is being used to develop a Safe Work Procedure (WSWP), the risk assessment task name should correspond with the title of the WSWP.
2.	Detail specific task steps	▪ In the first column "Ref No." write the step no. starting from 1. Up until however many steps/tasks there are in the task. If applicable, these should align with any associated WSWP to enable cross referencing. ▪ List each of the specific tasks, activities and/or steps associated with the activity/task that will be undertaken.

3.	Identify potential Hazards for each Task/Activity in Step 2. ▪ Use *Hazard Prompt Sheet* (Appendix 2) for help.	▪ In the column next to listed tasks/activities, identify all potential hazards relevant to each item. Record each hazard on a separate line. ▪ A common mistake is to refer to a hazard as the actual harm or the health effects it caused rather than the hazard. E.g. If the task was hosing down an area, the hazard is the wet floor not the potential harm caused e.g. fall / cut knee. ▪ If no hazards are found for a task/step or the risk has been addressed in a previous hazard, the task still needs to be listed to show it has been considered, and to keep the steps/tasks in line with any associated WSWP.
4.	Evaluate the possible Consequence of the Hazard ▪ Use Risk Calculator above	▪ Simply put if someone was exposed to the hazard, what would be the reasonable consequence? It is not always the "worst" case scenario; e.g. if you fell 1m off a ladder you could be killed as an extreme (e.g. land on your head), but the most likely consequence would be you might sprain your wrist or break a leg. Therefore the consequence is more likely to be moderate rather than catastrophic.
5.	Evaluate the Likelihood of that Consequence ▪ Use Risk Calculator above	▪ Ask yourself will it ever happen; if so what factors are needed for it to happen, and how often would those factors be around. Then ask yourself what you think the reasonable frequency would be, before determining the Likelihood.
6.	Determine Risk Ratings of hazards ▪ Use Risk Calculator above	▪ Determine each hazard's risk rating by intersecting the "Consequence" and "Likelihood" levels on the Risk Calculator table. ▪ For more detailed information on determining risk levels, refer to the Risk Matrix.
7.	Identify Controls to reduce hazard risk	▪ Control measures need to reduce hazard risk ratings to an acceptable level if the current risk level is unacceptable; aim for a low risk. ▪ Apply the Hierarchy of Control when determining control measures.
8.	Evaluate the Residual Risk (risk rating with controls in place)	▪ After control measures have been identified, you need to reassess each hazards risk rating to determine what the remaining risk would be with the controls in place from Step 7 (follow the principles in Steps 4 & 5 above). ▪ The aim is to achieve a Low Risk; if not achieved review controls again and/or ask for help.
9.	Determine highest remaining residual risk	▪ If the highest residual risk on the risk assessment is a Low Risk, or a Moderate Risk the task/project can commence once all control measures are in place and the risk assessment has been reviewed and approved. ▪ If a High or Extreme risk still remains, then the task/project must not commence and further review must be undertaken involving the Budget Centre manager/ Senior Management Team such as SHEQ (an Elected Safety Representative should also be involved). *Exemption: In exceptional circumstances, if the "Ext" or "High" risk rating does not apply to personal injury or environmental damage (e.g. potential for property damage only), and the Centre manager/R. Supervisor in consultation with the DD OHS believe it is an acceptable risk for the Company, the task may be approved. This does not apply for Personal injury or Environmental risks; an "M" (Moderate) risk is the highest ranking allowable.*
10.	Approval / WSWP development	▪ Once the risk assessment is complete, all participants should record their name at the bottom of the sheet, document any consultation that was had (e.g. tabled at SHE Committee) and the Centre manager / R forester or delegate should sign off the task for approval. ▪ Specify if a safe work procedure (SWP) is required to be developed (e.g. for routine / regular tasks). If yes, this should be done in accordance with the Minimum Standard - Safe Work Procedure Development.
11.	Sign on / off	▪ All persons involved in a project/task must acknowledge they have read and understood a risk assessment and agree to comply with all steps and control measures.
12.	Document Actioners	▪ Reference the initials of the person responsible for ensuring a particular control is implemented before progressing with the task/project.

APPENDIX 2	Hazard Prompt Sheet			Centre Name:	

ACTIVITY / TASK PREPARATION CONSIDERATIONS INCLUDE:

Minimum PPE	☐ Safety glasses ☐ Double eye / Face shield ☐ Earplugs (Specify class: _____) ☐ Helmet ☐ High-visibility ☐ Safety boots ☐ Long sleeves/trousers ☐ Coveralls ☐ Respirator (Specify type: _____) ☐ UV protection (Hat, glasses, etc) ☐ Gloves (Specify type: _____) ☐ Other:	Emergency Response / Plant / Equipment / Access	☐ 1st aid equipment/Trained first aiders ☐ Fire equipment ☐ Other emergency response ☐ Chemicals approved for job ☐ Chemical/Oil spill kit ☐ Vehicular type / access / parking ☐ Amenities / Facilities / Hours of work ☐ Signage / Barricades ☐ Communication equipment ☐ Registered plant	Training / Competency / Compliance	☐ High risk licenses ☐ Certificates of competency ☐ Experience ☐ Induction training required ☐ Project / Area Supervisor ☐ Any relevant legislation ☐ Consultation / Notifications ☐ Any literacy issues

POTENTIAL HAZARDS ASSOCIATED WITH THE ACTIVITY/TASK RESULTING FROM *(but not limited to)*:

CATEGORY	CONSIDER	CATEGORY	CONSIDER	CATEGORY	CONSIDER
Chainsaw	☐ A chain brake ☐ A chain catcher ☐ A throttle lock ☐ A rear hand guard ☐ Anti-vibration rubbers. ☐ An exhaust muffler ☐ An anti-kickback chain.	Manual Handling (Ergonomic) / Human / Muscular 	☐ Repetition / Overuse ☐ High / Low reach ☐ High force / Heavy loads ☐ Awkward / Unbalanced loads ☐ Pushing / Pulling / Twisting ☐ Carrying & walking ☐ Over exertion *(e.g. fatigue)* ☐ Design / Layout ☐ Personal characteristics e.g. height	Mechanical	☐ Unguarded moving parts (e.g. crush) ☐ Drawing in / cutting points (e.g. nips) ☐ Impact and crushing areas ☐ Uncontrolled movement ☐ Tearing / Shearing (e.g. abrasions) ☐ Unsafe access ☐ Auto-start equipment ☐ Inadequate isolation points ☐ Hand & power tool condition ☐ Stored energy (e.g. vessels) ☐ Failure of plant (e.g. loss of load, plant ejection, collapse, fragmentation)
Emergency	☐ Working alone / Remote work				
Fire / Explosion	☐ Inappropriate chemical storage/use ☐ Self-ignition combustibles (e.g. dust) ☐ Fire *(e.g. burns)*	Thermal 	☐ Steam / Condensate ☐ Hot or cold materials/surfaces ☐ Heat stress / Cold		
Gravitational  *Injured by people or objects falling*	☐ Working at height / Unguarded edge ☐ Struck by falling/lowering object ☐ Rolling/Sliding objects ☐ Ascending/Descending stairs / ramp / ladders / platform / mobile equipment ☐ Lifting equipment (e.g. crane, sling) ☐ Holes/Gaps or Slip/Trip hazards ☐ Scaffolding ☐ Unbalanced ladders ☐ Structural failure / Exceeding load ratings	Chemical / Environment 	☐ Hazardous Subs/Dangerous Goods ☐ Inadequate storage/bunds/labelling ☐ Gas / Dust / Fumes *(e.g. explosion)* ☐ Poor ventilation ☐ Inhalation / Absorption / Skin contact ☐ Waste/Contamination e.g. soil/water/air	Pressure 	☐ Compressed gases ☐ Hydraulic / Vacuum ☐ HP steam / Water
		Procedural	☐ Inadequate training / experience ☐ Incorrect equipment selection / use	General Work Area 	☐ Time of day and illumination/glare ☐ Wet / Slippery / Uneven surfaces ☐ Weather & outdoors e.g. wind, UV, fog ☐ Unauthorised personnel entry ☐ Noise / Vibration ☐ Biological – fluids, sharps, insects ☐ Inadequate maintenance/inspections ☐ Restricted work area ☐ Any foreseeable abnormal conditions? ☐ Any other hazardous conditions? ☐ Dead trees ☐ Sharp slash points
Electrical 	*Hazards resulting in electrocution / burns; E.*g. ☐ Cables: Unsafe condition/location ☐ No earth leakage protection ☐ High voltage / Switch rooms	Kinetic Energy / Mobile Plant / Pedestrians	☐ Traffic / pedestrian interaction ☐ Vehicle instability e.g. rollover ☐ Exceeding rated capacity ☐ Obstructed / Poor Visibility ☐ Being hit by the activities of another person, moving vehicle or object		

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